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CHARLES E. KELLOGG

C U R R I C U L U M V I T A E

Charles E. Kellogg

Volume 4

1969 - July 1, 1971

1969. On January 1 I still had my cold of the previous week. And the day was cold and windy. Mommy and I worked on the curriculum vitae for 1968.

Because of the cold and the wind we realized that the builders of our new room had somehow made a serious mistake. A very cold blast came in around the door to the room, probably from the ventilators either beneath it or in the peak.

Monday, January 2 I had a long and detailed lecture from Mr. Carl Dorny on the enormous confusion caused by Van Dersal's silly "management improvement study" -- it was plain from his performance that he had little idea of what management is and none at all about administration -- and the Planning Programming and Budgeting Scheme (PPB) imposed by the Secretary's office and run by very poor people in that office. Then too, in both the Secretary's office and in the Service this staff was set up separately from the real budgeting and accounting staff. Floyd Campbell headed it in SCS. He was a well intentioned pedestrian worker very ill informed on basic principles of accounting and the budget process. Neither Campbell nor Van Dersal, nor Williams, understood the legal requirements of budgetary accounting that would preserve the integrity of appropriations and give accurate figures on unit costs as required by the Congress. Dorny certainly hoped that this would change with the new administration because no one in the Secretary's office has had experience in this field.

On January 3 I received several newly published soil surveys. Each of them had maps difficult to read as a result of some of the "savings" we were asked to make by a committee set up by Williams and Young. These savings amounted to about 5 to 20 percent of the total cost of the soil survey and yet made the maps difficult for most people.

Later I instructed Cartographic to quietly give me a series of estimates of what would be required to make them as good as they were previously.

That day I also had a long conference with Hollis H. Williams. He had become very bitter against Don Williams and the whole "front office." Actually Don Williams had apparently promised at different times Norm Berg, Hollis Williams, and Ken Grant that they would be headed toward becoming administrator. I explained to Hollis just a few samples of the problems that I had had in the 30's and 40's, as well as recently, and that I had learned that no one can humiliate me nor flatter me unless I feel it, unless I cooperate. Hollis is a good man in many ways but he is not always emotionally stable. He was in a bad state of mind.

On Saturday, January 4 Mommy and I continued the first draft of the curriculum vitae for 1968.

The following day we completed the first draft except for a few inserts that I supplied during the following days.

That evening at the suggestion of Mary Alice I looked at a television program labelled "Black journal." I was shocked. It was a discussion of the so-called race problem by around a dozen or so well educated Negro revolutionary leaders. They spoke well. They interrupted one another normally and with good manners. They had some minor differences of view but they all agreed that the white power structure in America had gotten its power and property entirely by thievery and force of arms; that any talk of intergration or cooperation was useless. King and all the others that had tried had failed completely. The only recourse for Negroes was to arm themselves to the teeth and fight for their rights with guns. To me this was open sedition that has not a chance to help Negroes or to succeed. Actually, of course, what is really worrying these

people is that the lot of those Negroes who have worked hard to get an education has enormously improved. Government agencies, the universities, and many small and large private businesses are seeking out these Negroes and giving them the best opportunities Negroes have ever had. Thus the appeal of these revolutionary leaders is only to the lazy, uneducated, and criminally inclined Negro. I fear this means much more trouble. (From January 1 through January 10 armed Negro criminals in the Washington area held up 12 or more financial institutions and a great many other businesses. Many of these criminal acts resulted in murders of police and other citizens.)

On Monday, January 6, I drove to the office. After cleaning up memos and correspondence, I had discussions with several Soil Survey staff members about our immediate problems and priorities in our own work.

I also had another conference with Hollis Williams because the one the previous Friday had worried me a great deal. I lectured him quite frankly about his advantages, his opportunities, and who he was working for -- the people of the United States. At the time, at least, I thought it did some good.

On Tuesday morning, January 7 our information people asked me to give them two suggestions of topics for future Yearbooks. I gave them a copy of what I had sent to Assistant Secretary Robertson about nine months previously, included in this curriculum vitae for early May, 1968. Then in haste I prepared another brief prospectus on Soil and Water. I urged that this book be constructive and review the new principles and successful experiences since 1938 (Soils and Men) together with some reasonable statements of future opportunities and potentials.

Two or three days earlier Ken Grant had sent several of us a statement that we in the Service should be prepared with suggestions to offer for improvement of existing programs or new programs on the improvement of land use. We had had a great deal of clamor for a different federal land-use policy. Most of these were irresponsible and assumed that the National government had authority over private land, which it does not. I had a discussion with Berg, Whitt, Davy, and a few others about this matter and they urged that I prepare a memorandum. I squeezed a bit of work on it that day and had copies early January 9.

Fortunately the people who built our new room, in response to a letter that I had written them, came that day. Happily it was again cold and windy and they admitted the error and that they would try to fix it someday.

On January 8 I had several conferences and dictated some more on the statement on land-use policy. In the afternoon I went with Mommy to look at lamps for the new room.

January 9, the rough dictated statement on land-use policy was reproduced and copies given to a few. (Attached). I hope some may understand it.

I had conferences with Mr. Watson, the State soil scientist from Vermont here for training, Ralph Sasser of Tennessee here for politicking and several others.

On Friday, January 10 I had several more conferences and took care of most of the normal correspondence, including invitations to speak.

In the afternoon the Service had a retirement party for Don Williams. Mommy came in for it and there was a large crowd. There were a few short speeches. Van Dersal and our Information people put on a recorded skit that was clumsily done and in bad taste. But apparently Mr. and Mrs. Williams liked it.

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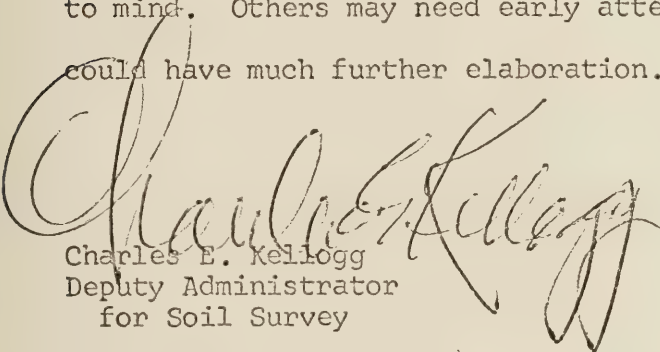
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D.C. 20250

January 9, 1969

SUBJECT: Land-use policy in the United States

TO: Kenneth E. Grant
Norman A. Berg
William B. Davey
R. D. Hockensmith

The attached statement, dictated in haste, outlines some of the major principles that come immediately to mind. Others may need early attention and all could have much further elaboration.



Charles E. Kellogg
Deputy Administrator
for Soil Survey

Attachment

Re: Land-Use Policy in the United States

Since our early colonial days, the United States has had a firm land policy, written into the Constitution and reinforced by many subsequent laws.

1. Under this policy controls of private land use, through the tax power and police power, were reserved to the State governments. The State government, or counties and cities as creations of the State, can carry on under enabling legislation. That is, no Federal agency has, or can have under the Constitution, power to zone private land or regulate its use. This can be done only by State government or local governments operating under specific State enabling acts.

Generally the intent under this policy has been that land that will return reasonable income within the lifetime of an individual shall be in private ownership and pay local taxes. If the taxes are not paid, such land may be repossessed by the State. (In a few States the law provides that tax delinquent land reverts to the county or the city rather than directly to the State.)

This policy was further implemented by early land sales of Federal land and subsequent homesteading laws. The Federal government has been authorized to take responsibility for making water storage available for irrigation, for flood control, and for other measures to protect private land or make it more productive. To this day, therefore, the Department of the Interior, because of its reclamation program, is considered a Department "for the West."

Other land that cannot be expected to return income to a private entrepreneur has ended up within the National Forest, in the grazing areas of the Bureau of Land Management, in National Parks, State parks and forests, and so on, with certain provisions for entrepreneurs to obtain rights for mineral exploitation.

2. The problem of rural land-use became acute during World War I and immediately thereafter.

A severe farm depression followed almost immediately the close of World War I. Before that War the United States owed Europe money and sent, among other things, farm products for payments to service these debts. After the war Europe owed vast sums to the United States. So by 1921, in addition to reductions in the demands of the War itself and a reduced domestic market, the United States lost a considerable foreign market for its farm products. This was the beginning of our serious problem of crop surpluses. Following the general depression in 1929, which was greatly stimulated by the farm depression, farm prices fell to disastrously low levels--even, for example, to 5 cents a bushel for corn.

In addition to attacking the problems of unemployment, the New Deal simply had to do something to relieve farm distress.

Not only that, the United States had a serious erosion problem on many farms. Farm prices were very high during World War I. Farmers knew that these prices would not last so they put as much land as they had under their control into crops, including some that

was not suitable for crops. This stimulated soil erosion and soil blowing. Then during the serious farm depression of the 1920's their financial situation was so bad that most could not use fertilizers, good water-control practices, and other good farming methods so that serious soil erosion and soil blowing continued.

Thus in the 1930's great effort was put on soil conservation, partly directly and partly as a good excuse for crop control programs. The early AAA program was based wholly on Federal powers and was declared unconstitutional by the Supreme Court. So a way had to be found to reduce acreage and get financial help to farmers directly and through the market place without either the tax power or the police power. It could have been better to have worked out a program cooperatively with State governments that would have made possible the use of both the Federal powers and the State powers over private land. Perhaps there was not time; perhaps the people were not ready for such a program. Without an amendment to the Constitution giving the Federal government power over private land, the only alternative was to have a Federal program based on "voluntary" compliance under which farmers got substantial payments for reducing acreage and for price supports. Certainly such an amendment to the Constitution would have been extremely difficult then and would be extremely difficult today.

Further, in these programs farmers were persuaded to accept cash payments to reduce crop acreage, commonly quite regardless of the potential suitability of the soils for farm crops, forestry, or other uses.

3. During World War II, and again during the Korean War, the United States had enormous needs for food and other farm products. Farmers were encouraged to expand production and to use improved practices of fertilization and water control, better varieties, and so on.

Then again the country was faced with farm production that could not be absorbed by the domestic and foreign markets. Large volumes of these products were purchased by the Federal government to maintain farm prices. These products were used in domestic programs and, more particularly, they were shipped to friendly countries as one form of economic assistance. Even until now, how much of this cost should be charged to "aid to farmers" and how much to "aid to undeveloped countries" is uncertain.

4. After 1938 the level of efficiency of farming, and of the related industrial and service sectors of agriculture, increased enormously. This process of increasing efficiency continues to accelerate. We have yet a great way to go in the application of science to agriculture.

Large numbers of farm workers were released from their employment on farms through replacement of hand labor by machines, chemicals, and a wide variety of other improvements. More will be. While the number of farm workers declined, the number of agricultural workers in the service and industrial sectors of agriculture greatly increased. Perhaps by now, around five to seven times as many agricultural workers live in towns and cities as live on farms.

Not only did this great surge of improved technology in farming have its influence on soils already used for farming, it had an enormous influence to make suitable for farming soils that had been previously either marginal or clearly unsuitable. Perhaps the most dramatic example--but by no means the only large one--was in the southeastern part of the country. Generally the largest single limiting factor on those soils had been their low fertility. Due to the great program initiated by TVA and cooperated in by experiment stations and private industry, fertilizers were greatly improved and their farm cost substantially lowered, on an index basis. Methods were worked out for more exact recommendations on fertilizer use by kinds of soil, crops, and farming systems.

During this same period, the cost of electric power in the area was so dramatically reduced, that this facility became available to farmers. Highly significant breeding programs for new grasses were successful. This gave an alternative to row crops on erosive soil. These trends tremendously expanded the potential for livestock. Many other improvements, including methods for water control, pest control and weed control, and better crop varieties, could also be cited.

Recent estimates suggest that a great deal more land-use adjustment is needed in the United States. Roughly 50 million acres of land are being farmed or have cropping histories that are not suitable for farming in known ways that would return reasonable

incomes to operators.' To encourage them to continue farming these kinds of soil would tend to push them further into poverty, except as new technology may be developed later for part of them.

On the other hand, we have in the United States around 230 million acres or more of private land, not now used for farming, but used for trees, rough pasture, or shrubs, which could be used for farming as well, or nearly as well, as the average that is being farmed now. (This does not include potentials that could be developed by extensive irrigation in dry regions.) According to the technology of 20 or 25 years ago, it would be costly indeed for most people to clear, to shape, and to otherwise prepare some of these soils for arable farming with suitable water control. With the new machines for land clearing and land preparation, such costs are very much lower today than formerly.

In other words, with some greater price incentive it should be profitable for well financed and skilled operators to develop vast acreages for farming. The knowledge is available. The land is available. The capital is available. Perhaps the largest limiting factor at the moment, besides the uncertainty of farm prices, is the lack of highly skilled managers of modern commercial farming enterprises, especially in the southeastern part of the country.

5. What are some of the features of a land-use program for agriculture that would benefit all our citizens and that would result in fair income to farmers and continuing low costs to the users of agricultural products?

It should need to be one with a reasonable price tag because it will be competitive with other huge and costly programs for defense, for celestial mechanics, for education (including adult education), for housing, for community development, and aid to our large cities, and for many projected programs to control pollution, to provide recreation, and so on, which also have very large price tags, at least in the minds of their supporters.

Partly because of a deep and wide-spread semantic confusion over what is modern "agriculture," a majority of our citizens think that only farmers benefit from funds spent to make farming efficient and to stabilize farm income. Few people have learned to differentiate clearly between "farm labor" and "agricultural" labor, between "farm" products and "agricultural" products, and so on.

a. We must recognize that commercial farming is becoming increasingly urbanized, complex, and competitive. To apply modern technology most effectively, farm businesses must be larger than formerly to have the monetary benefits of large-scale operations. Success requires great skill in business management as well as in the selection of the most efficient combinations of practices for the local kinds of soil.

Without special subsidies, ill-trained farmers, lacking the skills required for commercial farm management, cannot be expected to have reasonable living standards in anything like a truly competitive agricultural system in which farming is also competitive. In other words, such farmers will fail

just as comparable people fail in other business enterprises. Thus it seems that programs to help untrained farmers to find effective employment will be quite different indeed from those needed to maintain efficient commercial farming, along with efficient industrial and service sectors of agriculture, which, in turn, depend on farming.

b. For efficiency, people should be discouraged from using for farming land that is unsuitable for efficient farming under the current state of the farming arts. These people need alternative employment opportunities in small towns or small cities that have, or can have, adequate water resources, transport, and educational and other services. Some of them can continue in agriculture but in other sectors of it. Otherwise in desperation these people will migrate to the big cities and worsen the already serious problems in those cities.

c. Some plan for orderly discouragement, through land-use regulations or in other legal ways under the combined Federal powers, including those of the States, from bringing new cropland into use for farm products that are in overabundance is needed, especially in the short ^{run} ~~one~~, with anything like the current market outlets within the country and abroad.

d. It would seem highly desirable to have a high-level study group of both the Executive and of the Congress to

consider and to develop the necessary policies and legal frameworks within which suitable measures can be enacted into law. Representatives of State governments should also be included.

(1) First of all, there are some opportunities for short-run measures to improve the administration of existing programs so that only soils suitable for farming are used for farming, and so that only soils suitable for housing and other uses are used for that purpose.

As an example of another short-run measure that could help immediately would be to stop transfer of quotas for crops in surplus and acreage allotments, with benefits of price supports and so on, from one operator to another or from one county or State to another.

Tremendous losses by both private individuals and public agencies have resulted in recent years from building roads, houses, and subdivisions in areas that are not suitable and that cannot be made suitable with reasonable expenditures for foundations and for the control of floods and other hazards.

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Long-run measures are already in use to control the use of soils for these purposes. Appropriate zoning and land-use regulations can be provided for under State law with adequate soil maps and other relevant basic information properly interpreted.

(2) Longer-run legislation that would make use of the State authority for rural zoning and land-use regulations could be developed under which Federally-financed payments and technical assistance could be used to stabilize farming systems, production, and prices at much lower cost and with greater efficiency of land use than can be done with a wholly Federal effort administered from Washington under Federal law. As an example, a program, such as the special one of the Service in the Great Plains, could have been preceded by local zoning regulations to protect the great Federal investments.

6. The Soil Conservation Service would be in a position to make great contributions to the implementation and administration of land-use programs that would improve the efficiency of farming and of soil and water use.

a. First of all, the Soil Conservation Service has the Federal leadership responsibility for the National Cooperative Soil Survey, which has been carried on cooperatively with

the State agricultural experiment stations and other State and Federal agencies since 1899. During most of this period the majority of the funds used in actual mapping of the soils and publication of the results of the work came from the U.S. Department of Agriculture. Any useful soil survey to cope with national and State problems must have national systems of soil classification, description, and interpretation that are clear to the thousands of users in Federal, regional, and State public and private agencies.

Unhappily, reliable soil surveys are not available for all the land where they are needed. On the other hand, there is no part of the country where soils are used for farming, or have potential for farming, about which we have none of the essential information.

A very large addition to the availability of the necessary soil maps could be made during the next three or four years at a modest cost. For several reasons the soil survey program has been out of balance between the field mapping and interpretation, which is by far the biggest cost, and their preparation for publication and for printing. In January 1969 around 350 to 400 soil surveys, mostly of counties, have the field mapping and other work completed or essentially completed but are waiting their turn for

publication so that they may be available to users in public agencies and to the public. In addition the Service and its cooperators are mapping about twice as much acreage now each year than that being published.

A tiny fraction of these unpublished soil maps are being reproduced for limited local use in advance of accurate editorial review and map compilation.

In other words, the Service could have in hand in published form a large part, although not all, of the vital material needed to develop programs along the lines that might be desirable. In fact, the use of soil surveys for effective zoning--both rural and urban--has been fully demonstrated over the past 35 years or more in several parts of the United States where legislatures have passed the essential enabling legislation.

b. The Service has had wide experience in the use with people of interpreted soil surveys and other information for helping individuals and groups plan for efficient use of soil and water resources on farms and ranches. The bulk of this work has been done with and through soil conservation districts organized under State law. Thousands of farmers have benefited from this program, which is closely related to crop adjustment and other land-use adjustments. In recent years, especially since the initiation by the Soil

Survey of a national cooperative effort with the Bureau of Public Roads and State Highway Departments in 1951, the Service has rendered comparable technical assistance through soil conservation districts and other local agencies for planning of nonfarm soil use in areas of rapid population growth and industrial development.

It should be added that great efforts along this line have also been carried out for Defense purposes, especially in countries overseas since 1942. The Service has a large and competent staff experienced in carrying on this work and carrying it on cooperatively with other Federal, State, and local agencies.

c. In actual practice soil and water use are intimately related. The relationship is obvious and direct in farming, ranching, and forestry. Although less obvious, it is equally important in the control of floods, the selection of dam sites for water storage, the protection of areas used for the accumulation of water for other uses, and so on.

The Service has had experience in helping farmers with their water-control systems over the years; with its watershed protection program; and with its flood control and other water programs. The Service has had important experience in planning water use in cooperation with other agencies. It has developed a large staff with a great deal of important experience in the use, storage, and control of water.

The increases in population and the large increased requirements of water for domestic and industrial use will demand much greater programs for water control. A great many small watersheds, as well as large ones, need improved water-control systems. Their great value has been fully demonstrated in many parts of the country where improvements have benefited small towns and cities. These have given alternative areas of employment in contrast to further expansion of our already crowded big cities.

The total effects on the local economy of many of the watershed development projects probably exceed the direct benefits by factors of three to six times.

7. In connection with all of these programs that have been going on to help people, the Service has developed a good staff in several lines in addition to the primary ones already mentioned. It has developed effective cooperative relations with the State land-grant universities, with State governments, and with many other State, Federal, and local agencies who are familiar already with many of the basic principles because they have also contributed through their experience and their research.

The place of the Service in future combinations of Federal, State, and local programs that are established to carry out either existing, modified, or new land-use policies will depend on the accuracy and reliability of our data and the skill with which they are interpreted and used.

Jan 1969

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It was cold the next weekend. I worked some on the curriculum vitae and some on books. Sunday Baltimore lost the championship football game to New York. I had not seen them play so badly since early in the 1965 season.

I was in my office ^{the} following Monday and Tuesday, January 13 and 14. I had the usual correspondence, memos, and reviews. Few seemed to have any "hard news" about the new group taking over the Department the following week.

Wednesday, January 15, our usual technical seminar dealt with the use of the soil survey for local planning and for the development and enforcement of county standards for run-off control in the Rock Creek Watershed. In the afternoon I visited briefly two of the Assistant Secretaries who were leaving -- John Baker and Dorothy Jacobson.

The next morning I continued with correspondence and speeches.

Shortly after lunch E.L. Peterson, Assistant Secretary under Benson, was in the office for a couple of hours or more. He is finding it quite difficult to work with John Oliver of the Development and Resource Corporation and seemed to have just about made up his mind to leave. I was sorry since I brought them together in the first place. John is a poor administrator of professional people. He gives them an assignment and then keeps dabbling in with appointments and changes without prior consultation. Pete told me that he knew that he was being considered for John Baker's position, which would include SCS, Forest Service, Farmers Home Administration, and Community Planning. This had been rumored for two or three weeks.

I told him that I knew the incoming Secretary, Clifford Hardin, quite well but not intimately. It had seemed to me that since he knew where I worked and had not asked my advice it might do more hurt than good to call him and offer it. Pete agreed.

Peterson would be much more useful now than he was before because he has learned a great deal on his job with D. and R, especially about the nature of farming, agriculture, and governments in the undeveloped countries.

Friday I had a brief talk with William Johnson who had just returned from a visit to the Wisconsin State Office. We had had a lot of trouble with the extremely poor quality of their field maps -- very long symbols, huge numbers of unnecessary separations, and poor legends. To my amazement he found that all the trouble was due to the state soil scientist -- Klingelholz. He started out in the 50's as quite a good man but has deteriorated terribly.

I then called Dr. Kennedy, Assistant Provost at Cornell, about Peterson. Kennedy had asked me in November to give him suggestions for a dean of their School of Public Administration and Business. Of course I gave him a quick rundown on Peterson, whom he already knew slightly. Then he told me that Dr. Brady was under active consideration for Assistant Secretary of Research and Education in the new USDA. This would be very good indeed.

About 10:30 I went to the auditorium for a program to honor retiring Secretary Orville Freeman and his wife. As usual the statements made were a bit sticky and considerably exaggerated. He could hardly have been called, a "good" secretary, let alone the "greatest"

Then I went with Dr. Byerly and Dr. Trelogen to the Cosmos Club for lunch with Sir William Slater and also a much less well-known scientific

officer in the British Embassy. Slater was over here partly to promote a slow-acting penicillin for the treatment of dairy cows during their dry period to control mastitis. Excellent success had been had in Britain. The dairy people at Cornell and at Davis, California were much interested, and so was the company that produces the stuff but it may be difficult to get approval for trials with commercial herds from the Food and Drug Administration.

We returned to the Department and talked briefly with three or four people knowledgeable in this area. Then we went with him so he could pay his respects to Freeman, who was packing up. Between about 4:00 and 5:00 p.m. we had a conference with him and the directors in my office.

Saturday and Sunday, January 18 and 19 I didn't get much done. The nervous tension of the previous week made me tired and sleepy. Sunday evening Mary Alice, the children, Mommy, and I had dinner chez William Johnson.

On Monday January 20 I stayed home for the special holiday. I did a bit on speeches but mostly read and watched Nixon's Inauguration. I can't help but feel that this event may prove to be a tragic one. *unlike it did*

On Tuesday, January 21 our mail was very heavy. It included a long chapter of the English translation of Jurion's new book on agriculture in the Congo. I should have liked to have changed a good deal but limited myself to only a few quite bad mistakes, including a confusion between "cottonseed" and "seed cotton." In the middle of the day I went out northwest and gave a lecture to the Sumner Garden Club.

At his last staff conference D. A. Williams commented that he supposed that more of the soil mapping was done by our cooperators than the figures showed. So I prepared a memo to Grant, explaining the great help we had from our State cooperators that could not be reported as "acres mapped." Copy attached.

Washington, D.C. 20250

January 21, 1969

SUBJECT: Soil Survey, Great Importance of State Cooperation

TO: Kenneth E. Grant

In our regular staff conference several weeks ago it was pointed out that most of the soil mapping for detailed soil surveys was paid out of CO funds. It did not seem useful to create an opportunity then to explain that "acres mapped" is by no means an indication of the great importance of the work done by our cooperators in the States.

Over the years the total Service funds for soil surveys have increased from around \$5,000,000 to nearly \$20,000,000. Nearly all of the increase has been used for mapping. This means that we are seriously handicapped in laboratory and research work, cartographic, correlation, and editing. At the moment we are behind around 340 surveys which are ready or could be ready for processing and printing.

Fortunately the States have been able to assemble a great many of the data needed for soil correlation and interpretation. Some States do quite a bit; others do less. To make interpretations we need to have hard data about how the soils behave under alternative systems of management. Most of that comes from the State agricultural experiment stations. Many of the experiment stations assist with laboratory work. Others do not and in those places we are short.

Also now many of the State highway departments contribute a great deal through their soil mechanics laboratories. Of course, the validity of our engineering determinations depends on having reliable data.

In several States we also get research assistance for soil classification and for interpretations. For example, we have been very weak for many years in accurate data on the seasonal

Soil Survey

January 21, 1932

SOIL SURVEY, GREAT IMPORTANCE OF STATE COOPERATION

THE NATIONAL SOIL SURVEY

In our country, soil surveys are being made at a rapid rate. The first soil survey was made in 1861, and since that time the number of acres surveyed has increased steadily. At present, the National Soil Survey is making surveys at the rate of 100,000 acres per year. This is a very large amount of work, and it is of great importance to the Nation.

Over the years the National Soil Survey has increased from around \$2,000,000 to nearly \$20,000,000. This is a very large increase, and it is a measure of the importance of the work. The National Soil Survey is a very important part of the Nation's work, and it is of great importance to the Nation.

Fortunately the National Soil Survey has been able to obtain a large amount of data needed for soil conservation and improvement. This data is of great value to the Nation, and it is of great importance to the Nation. The National Soil Survey is a very important part of the Nation's work, and it is of great importance to the Nation.

Also we have at the National Soil Survey a large amount of data needed for soil conservation and improvement. This data is of great value to the Nation, and it is of great importance to the Nation. The National Soil Survey is a very important part of the Nation's work, and it is of great importance to the Nation.

The National Soil Survey is also very important for the Nation. It is of great importance to the Nation, and it is of great importance to the Nation. The National Soil Survey is a very important part of the Nation's work, and it is of great importance to the Nation.

fluctuation of water tables for representative examples of different kinds of soil. Recently North Carolina has established over 140 small test lists to provide these data. We need more of these in other States.

My point in this memorandum is that I hope our people appreciate how much we get from our cooperators that cannot be counted as acres mapped.

Charles E. Kellogg
Deputy Administrator
for Soil Survey

11/10/1914
Dear Sir,
I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the proposed extension of the term of the lease of the land owned by the Government of the District of Columbia, and in reply to inform you that the same has been referred to the proper authorities for their consideration.

Very respectfully,
Your obedient servant,
John D. Smith,
Secretary of the District of Columbia.

Charles E. Smith,
Secretary of the District of Columbia,
Washington, D. C.

I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the proposed extension of the term of the lease of the land owned by the Government of the District of Columbia, and in reply to inform you that the same has been referred to the proper authorities for their consideration.

Very respectfully,
Your obedient servant,
John D. Smith,
Secretary of the District of Columbia.

I have the honor to acknowledge the receipt of your letter of the 10th inst. in relation to the matter of the proposed extension of the term of the lease of the land owned by the Government of the District of Columbia, and in reply to inform you that the same has been referred to the proper authorities for their consideration.

Wednesday I had two poor papers to comment on. One was from Brady about a proposal on tropical research for the Agricultural Board of the NRC. The second one from Moseman was very much worse. He presumed, by title, to talk about agricultural research in the newly developing countries and included an extraordinarily biased review of agricultural research in the United States. His whole attention was given to about five food grains, essentially nothing else. And he used around 85 pages of manuscript for this very narrow part of "agriculture." I finished Jurion's proof and returned it and did a few other chores.

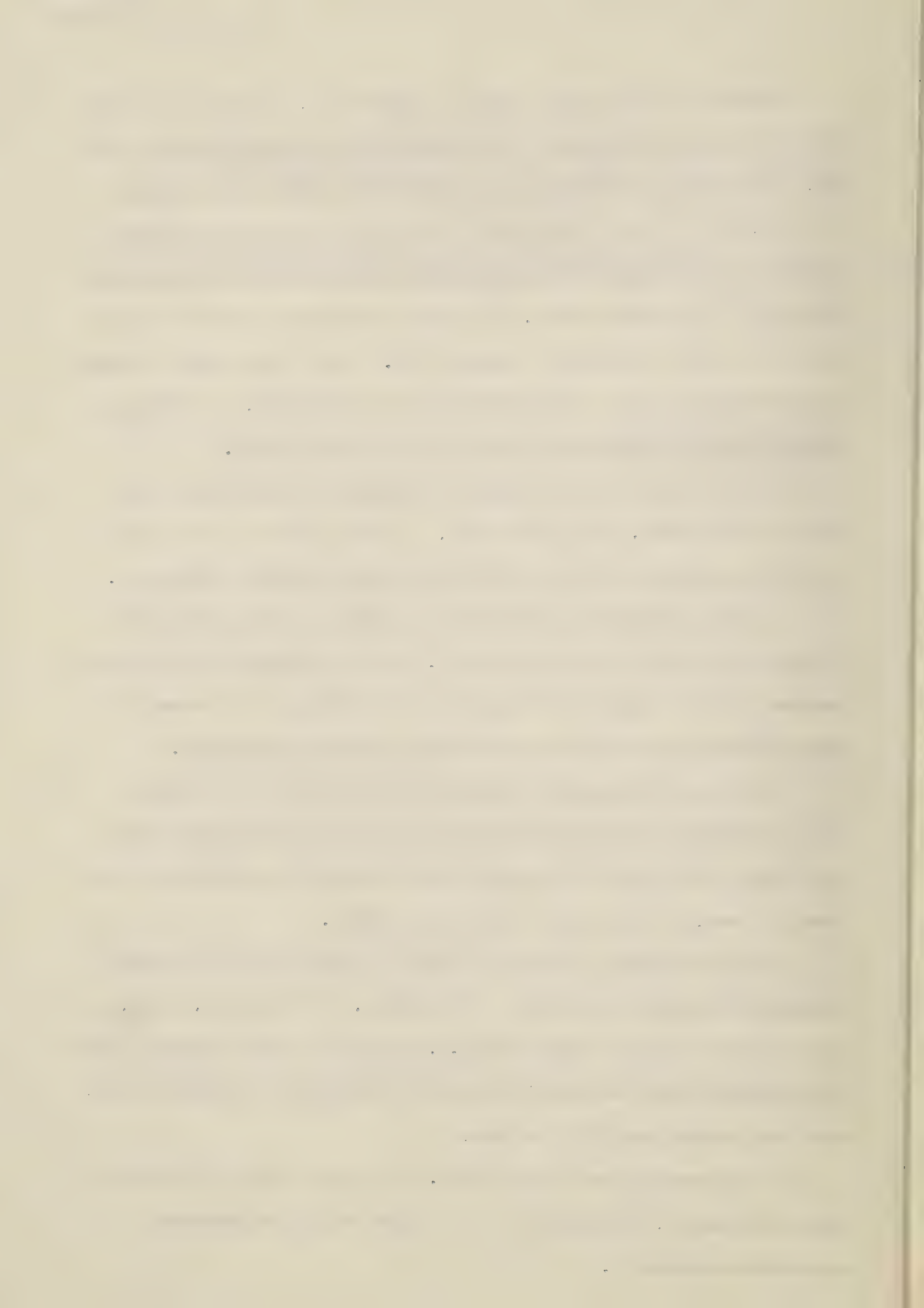
Thursday, January 23 I returned my comments to Brady and a very long one to Moseman. (Copy attached). I had to tell him that it was a strictly propaganda paper and that he certainly shouldn't publish it.

On Friday, January 24 I was able to clean up my desk fairly well in order to be away the following week. In the afternoon I went over to the Pan American seminar on soils and land development and presented a paper on "Management of tropical soils for sustained production."

The morning of Saturday, January 25 we discovered that someone had again stolen the heavy weight and cord we use to keep Shem in the front lawn. On a hunch I started walking around the blocks nearby and found it resting comfortably on one of the lawns.

About noon Sunday, January 26 I left to attend the National Work Planning Conference of the NCSS in Charleston. Bill Johnson, Dudal, and I reached the hotel about 3:00 p.m. We took a walk to see the lovely old buildings along the water's edge, and returned on a parallel street about two blocks back into the town.

By late evening, most had arrived. There were about 50 including Chalk, Kuykendoll, Silliman, and two or three others who made no contributions whatever.



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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D.C. 20250

23 January 1969

Dr. A. H. Moseman
Associate
The Agricultural Development Council, Inc.
630 Fifth Avenue
New York, New York 10020

Dear Al:

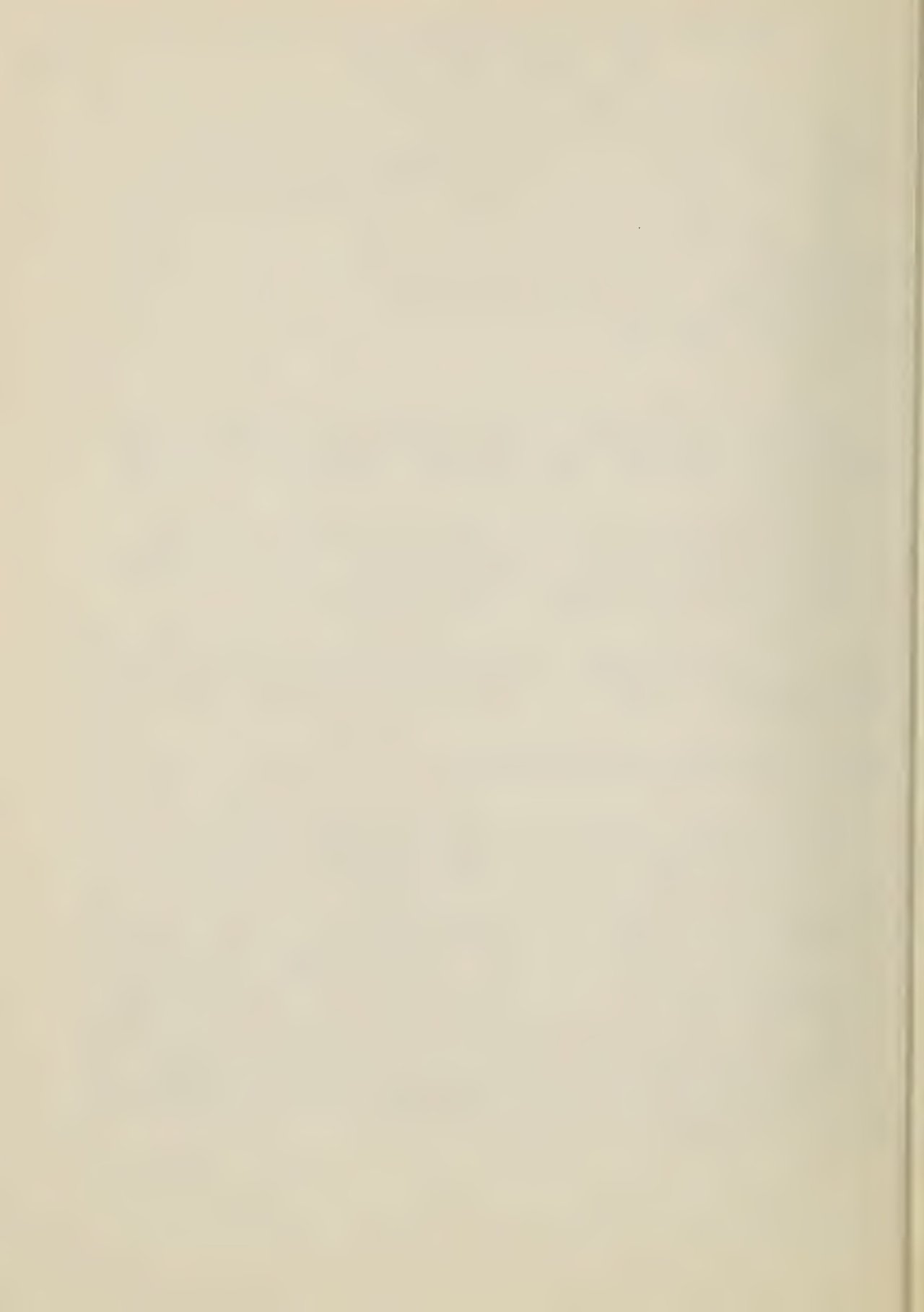
I have read the paper sent with your letter of 14 January. I wish very much that we could have a long talk about it. I agree with much of it. I disagree with much of it. And some of it I dislike very much indeed.

I was almost shocked by your introductory few pages. Certainly the severe drought in India did not in any way change the focus of enlightened people about the world food problem. I am sure it did not change yours and certainly it did not change mine.

Many of us have been deeply concerned about these problems for a long time. The big push came to me on my first trip to Asia in 1945. Then I resolved to spend a considerable part of my personal time on this question.

Something like this happened to many other people so that your introduction gives an entirely false notion.

You and I were both unhappy over the panacea approach that many took and that some take even today. There are several of these. Do it all with fertilizers. Do it all with irrigation. And your paper says clearly to me that you will do it all with a few miracle varieties of a few grains. For illustrations in your paper you use no achievements to amount to anything outside of the very narrow area of field crops, mainly grains. There is not a word about African oil palm or any horticultural crop. There is nothing whatever about soil selection or of the soil survey. I could write a comparable paper, and perhaps you could to, taking all of the examples from soil science--and we have a great many from this and other countries for the same period that you are discussing. You have said altogether too little about fertilizers, including the secondary nutrients. You have said altogether too little about water control, including irrigation, runoff control, drainage, and so on.



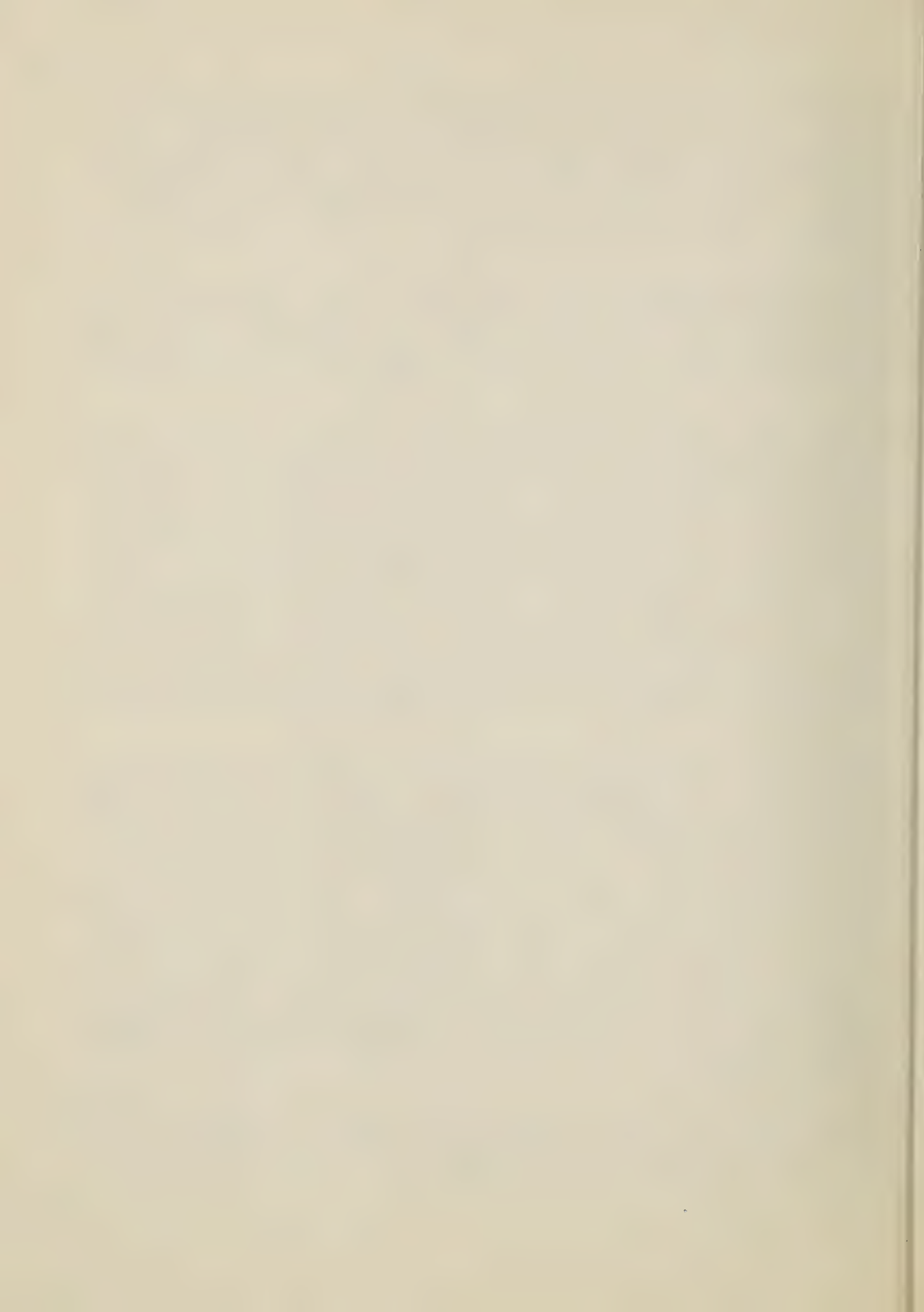
You speak a lot about India, but you have absolutely nothing about the vital need for the consolidation of fragmented holdings. This is essential for India to move very far toward modern farming. You have practically nothing about the importance of the private sector and the essential development of the input industries that serve farmers, or about marketing, storage, rat control, transport, price incentives, credit, and all the rest.

Thus your paper stands on such a narrow base, Al, that it simply cannot stand at all as it is. If I wanted to, I could write a similar paper, taking all of my examples from any one of eight or nine fields besides the narrow one of field grain crops. But there is not enough money in Washington to get me to do it because no such narrow paper would be in the public interest, here or abroad.

On page 1 you get into demography a bit--"the population explosion." You fail completely to distinguish between increasing birth rates and rapidly declining death rates. You say nothing about the progress, which has been substantial in several areas in this field. If you would stop and think sometime when you were in Africa and Asia, and ask yourself: What social security do these people have? Then you would realize at once, only having many sons. This was true in the United States in rural areas until quite recently. This population matter is a very difficult one. And it will not be solved with the pill--even a good one. Can you tell me why New York City is closing some of its maternity hospitals now for want of patients? Our birth rate is about like it was in 1935 or 1936. You cannot brush this thing off in a sentence or two, Al, in terms of birth-control devices. Certainly we have many more now than we had in 1950.

In developing the Marshall Plan, as clearly explained by Professor Kennan in his recent Memoirs 1925-1950, the top United States experts on each of the countries of Europe were called in for several months of study before Marshall made his speech at Harvard. Nothing like that has been done for any country where they are working by AID. For instance, recently two pairs of men have been sent to talk with me about agricultural research in the Congo. No one of the four knew where the country was. No one of the four could read French, so I had to start first with the Atlas and find what I could in English. This is the trouble and has been. The problem to which you are addressing yourself was quite well recognized by knowledgeable people by 1945, not 1966 as you say clearly but very wrongly on the top of page 2. What about the Hot Springs conference? What about Quebec in 1945? And so many after that? What about my booklet for UNESCO and FAO in 1950?

The work of the INEAC from 1935 to 1958 was by far the most important tropical research going on in the world. You say this much later on but you give not one example, nothing about oil palm, cattle, fish, or many of the other great developments.



I have forgotten when I started talking about interactions and the package of practices. Certainly it was not later than the early 1940's. It was clearly spelled out in the Ford Team report on Indian food crises in 1959. I know, because I wrote a great deal of that. This man Hopper lied straight out about that in the recent silly Rockefeller conference. (When I wrote to you about that, I also wrote to Ensminger to see if he could tell me what reason this man could have for making a bold-faced lie. And he told me that Hopper had worked for them and because of so many irresponsible statements like that, that Ford had dropped him. That explains it. Ensminger wanted me to write to the President of the Rockefeller Foundation, but I did not think it would do a bit of good.)

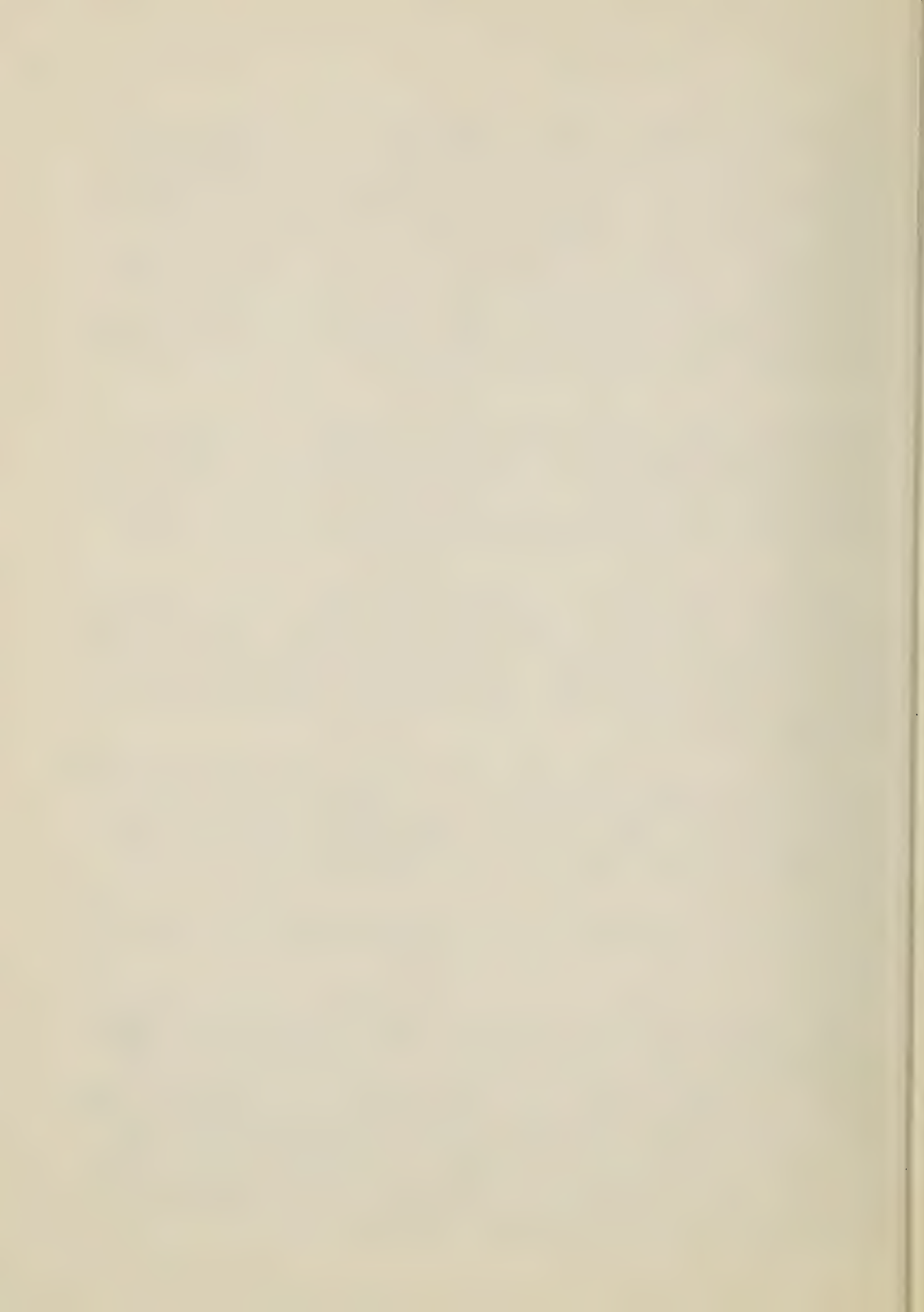
But this principle was well known by many leaders in agricultural research and extends long before 1959. Although I will admit, a great many like Frank Parker and others do not understand it yet. In fact, the man in charge of your Council talked to me about a paper he gave and asked me if I would not go over it. This was in the 1950's. I did, and almost completely revised it to bring in this point of view. Happily he used these revisions.

We now have a great deal of trouble in India with the overemphasis on the irrigation aspect of water control in contrast to a much less sophisticated system of runoff control with terraces. This error is partly related to a failure to understand this principle. But also the people failed to consider the problem of foreign exchange, the speed with which you can alter the education and techniques of cultivators, and so on.

I too have read deeply the history of agriculture in the United States, including all the early reports of the Association of Land-Grant Colleges (and with different names) after 1888. By the way, the first meeting was called for this purpose by the then Secretary of Agriculture--Colman, I believe. My summary from these studies is quite different from yours.

Most of our great scientists in the colleges, about whom I know, were very good at both research and at teaching. How about your own professors?

I believe very strongly that the great strength of modern American farming has been the simple fact that these colleges did have extension, research, and teaching together--at least one center in each State--along with the system of cooperation with the USDA. My belief was reinforced during the recent study of the colleges. Some are poor and some are excellent. Of course, a good many fall somewhere between. But I found that I could judge any two activities by seeing one. If teaching, extension, or research is weak in any one so are all of the others. We must allow for the fact that even the poorest may have two or three good scholars and even the best have two or three or four weaklings at any one moment.



In fact, some teaching, including lectures, very much helps the research scientist. It compels him to organize what he knows. In the process he finds where his reading is behind. He repairs his weakness and becomes a much better research man, especially in agriculture where interactions are so very important. I can say it helped me enormously to do some teaching. It helped nearly all of the men who work for me now.

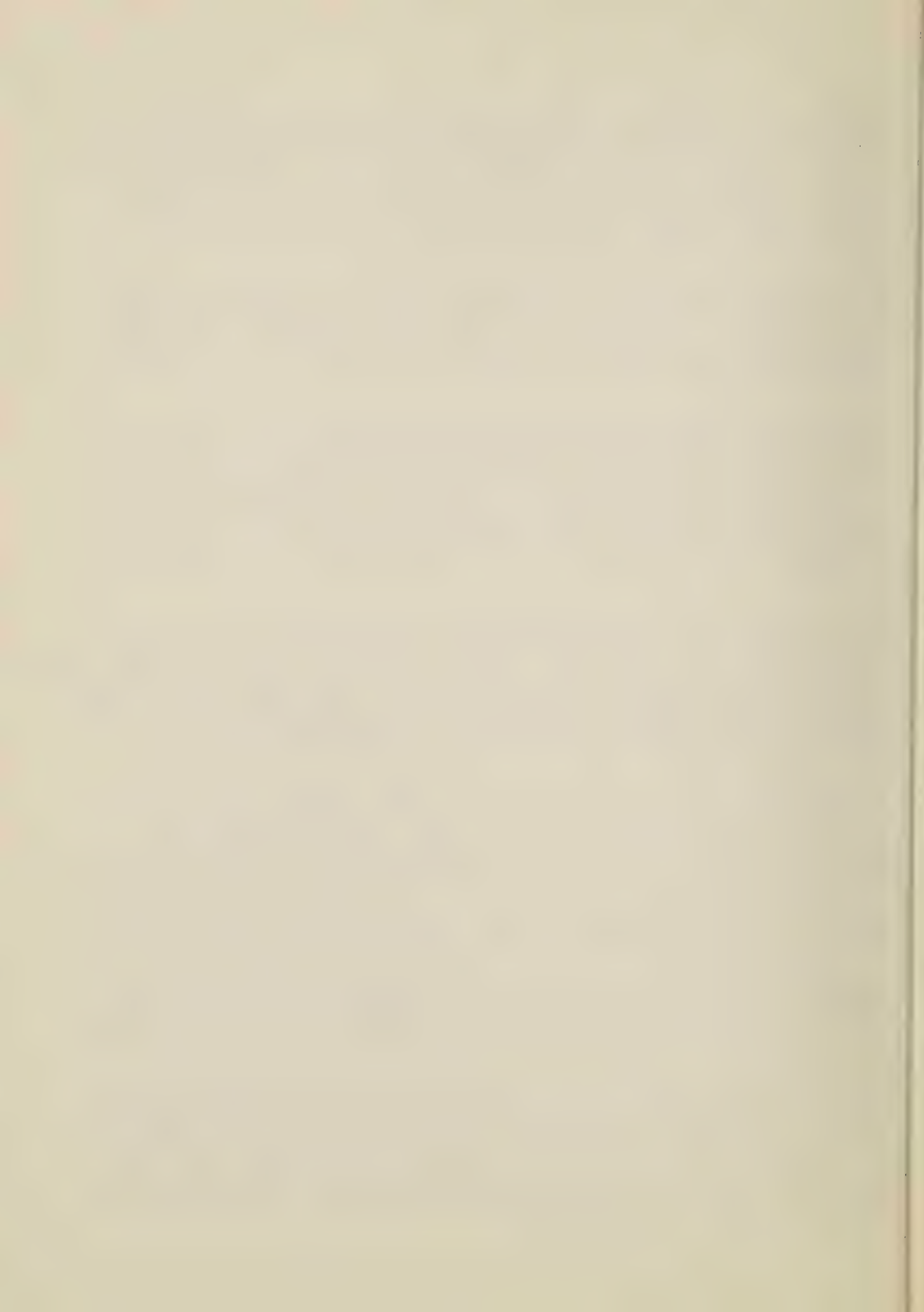
I will admit that anyone can pick and choose among the records and find examples of failures or successes and of stupidity and brilliance in the colleges and in the Department. But underneath I believe firmly that the United States was very lucky compared to any other advanced country.

Now I put that last part on because I am not saying that the same pattern would work in the undeveloped countries so well as it worked here--not until they have a higher degree of literacy and honesty. I think it is a mistake to put an identical set-up in another country without a great deal of study. In the Soil Survey, for example, to put it in the Ministry of Agriculture would be to give it the kiss of death in several countries. Look what happened in India and in Chile.

Then too, in all of this discussion of adapted research and of "new packages", where would we have gotten in the United States without the National Cooperative Soil Survey? How could we have exchanged *data* species and know what we are talking about? After all, Al, even your food grains are mostly grown in soils--on thousands of kinds of soils--requiring quite different management as far as fertilizers are concerned, drainage, irrigation, and all the other practices.

I will admit that the colleges and the USDA, as you have stated in this paper, have lagged very much behind on realizing the vital importance of the industrial and service sectors of agriculture. For every man working on a farm now, there are about five or six working full time in agriculture who do not live on farms. It is just as important that we stress these aspects of agriculture as it is farming itself. Look at the waste in India compared to the United States. I do not know exactly what it is, but several of us have estimated about 35 percent waste in normal years and up to about 40 or 45 percent in years of very heavy crops. The failure of recognizing this is a contributing factor to the failures of AID and of some of the universities. They ought to know better.

On page 41 you talk about "two decades." Al, that is only 20 years. Look what happened in research between 1890 and 1914 and especially when Secretary Wallace was here. Again I notice on page 43 you said nothing about the Soil Survey development in the Congo, which was very successful up to the revolution. Have you read Jurion's new book? I have been going over some of the proof of the English translation that may be out in March or April.



You mentioned INEAC on page 58 but without a single example of what they have done. Don't you know? You simply cannot develop a viable agriculture in any of the tropical countries and omit all considerations, as you have done, of the industrial crops, horticultural crops, palm crops, and so on. They must have a source of foreign exchange. And if they are country people, how are they going to get it? Of course, some of the countries, like Libya, ^{know} ~~know~~ about the oil.

Again on page 65, near the bottom of the page, you should make it clear that you are talking about a very limited group of crops, not even a sample of the important ones. Millions of people have little or no grain. What about bananas, cassava, taro, sugarcane, and so on and so on, to say nothing of the important palm crops.

On page 67 I agree with your last paragraph.

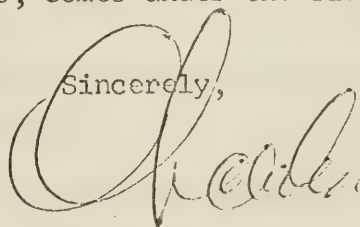
On page 68 you speak of commercial or export crops. Here again you are talking only about a few grain crops. I know they are important in many countries, but when it comes to export crops for the undeveloped countries, this is another story. You cannot even discuss international trade in farm products and think only of these few grain crops.

You have an amusing paragraph on page 69--the second full one. The trouble with field experiments is not the shape of the plots but the lack of judicious soil selection. This one really amused me.

Well, I wish we could have a long talk about this. I hope very much indeed that you throw this manuscript away and start over again. You can talk about building agricultural research systems. But you have not done that. You have let the whole thing rest on such a narrow base that it will topple. I do not understand why you wrote such a paper. There is so very much more in the field of agricultural research.

This paper will put you in the same class as the others that have narrow, simple panaceas. The "new miracle crops" can be a great help but not in anything like the narrow setting you have placed them. Your paper, as it stands, comes under the simple heading of propaganda.

Sincerely,



Charles E. Kellogg
Deputy Administrator
for Soil Survey

Please do not be desultory. I don't want to see your name on such a silly narrow paper about such a broad, important, and complex subject.

The program of the first day was the least useful. (Since the proceedings were reproduced and are available they will not be outlined in detail.) Most of the representatives of other agencies were poorly prepared. Yet Dudal of FAO gave an excellent talk on the FAO-UNESCO world soil map at 1:5,000,000. Even though I did not agree with some of it he had done a fair job considering the difficulty of getting agreement with the Soviets and trying to do scientific work with the handicap of Bramao. During the previous year several in FAO had asked my advice on this map. FAO was already committed to do something. I had urged them to go ahead with Dudal's scheme, much as I disliked part of it, and get it out as soon and as cheaply as possible.

The morning of Tuesday, January 28 I went out with James McDonald to give a talk to the students at the Technical Center. I spoke on interactions; the relation of soils to farming both here and abroad; and the nature of modern agriculture with emphasis on South Carolina. This was fun.

The technical program continued up to about 2:00 p.m. Thursday, January 30. The discussions were generally good but we should have had an additional day and evening. It was not easy for me to manage and keep a fair schedule for all speakers and questioners.

Nearly six years before I had started a committee to deal with the classification and interpretations of shaped and made soils. For example, many gullied lands had been smoothed with bulldozers, terraced, and well managed. Other soils had been levelled for irrigation. Some had actually been made by pumping the silt out of river channels and putting it back of a wall. Many soils were reworked with heavy machinery and used for building sites. Baur had been chairman with either Simonson or Carlisle also on the committee. For some reason they were determined to stick to

age-old conventions for miscellaneous land types. After nearly six years of study the big problems were ignored.

Before plane time Johnson and I shopped for books. We left the hotel about 5:00 and I was home about 8:30.

Friday, the last day of the month, I had a very busy day in the office, including a positively silly questionnaire about soil surveys and their relationship to "environmental improvement."

Saturday, February 1 Mommy went to Charlottesville to pick up Robert, Joan and the children who left the following Monday for London, Copenhagen, and Reykjavik. This was the beginning of his Guggenheim travels.

On Sunday Robert, Joan, Mary Alice, and the four grandchildren were here much of the time.

When I went to the office Monday, February 3, I found I was Acting Administrator. The new administrator, Ken Grant, and several others were at Atlanta for the annual meeting of the National Association of Soil Conservation Districts. I discovered a bit later that besides the big contingent from the Washington office, all State conservationists were authorized to attend! This was one of the most scandalous wastes of public money I have seen.

About 9:30 I learned that President Nixon was to visit the Department. We had a quota and I had to figure out which people would go. Much as I disliked Nixon's record this was a nice gesture and he and the Secretary spoke well.

On Tuesday things went as usual and I attended a conference about US participation in a conference called by FAO in Rome about planning research in Africa, especially among the countries of East Africa and

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those between the Sahara and the Central Congo Basin. The committee wanted Carl Ferguson and me to go. I explained that it seemed doubtful on travel funds. (Of course I didn't explain that some \$25,000 or more had been wasted in Atlanta.)

The rest of that week was extremely busy with callers, conferences, and memos.

We had been promised snow but it didn't come and Saturday, February 8 I worked for a couple of hours in the garden.

On Sunday I read and wrote. Bill Johnson came for dinner and Mary Alice and the children in the evening.

Monday, February 10, in the morning Ken Grant came to my office to explain that he would approve, at SCS expense, a request that I go to Rome during the last week in March to attend the FAO working party to assist Agrican countries in the development of agricultural research. I explained that I was not especially anxious to go but there were very few people available to send that had experience in Africa ^{and} with the organization of research.

He also told me that 2 or 3 State conservationists had suggested to him that Johnson seemed a bit "dictatorial." I assured Ken that this was certainly some misunderstanding because before he came to Washington, we checked with all of the State conservationists in the West and they highly approved. Ken said, "Perhaps Johnson is trying to ape you, without having your prestige." I discussed this briefly with Hockensmith later and he said exactly the same thing. So later I talked with Johnson about it on two occasions. I pointed out that sometimes he was a bit sharp and that this could be avoided a good deal by giving the other people a chance

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to have their full say and ~~to~~ continue the dialogue by asking questions. And often they will see their errors themselves.

On Tuesday, February 11, the Department was full of rumors about more budget cuts. I was too busy with a heavy load of memos and correspondence to worry about it then, but they did come February 20.

On Wednesday, February 12, I went to have my eyes examined in the morning, attended a seminar on Spain and Portugal at noon time, and the usual Soil Survey scheduling conference during the afternoon.

Thursday, February 13, Grant called me in about a silly idea that someone was proposing to have the Soil Survey laboratories and the other field research in geomorphology and in plant nutrition reporting to the regional centers! At the same time Grant said that he would do all he could to help get better balance for more Soil Survey publications.

We also had a conference among several about preparing a Service position on environmental quality.

Friday, February 14, I had another brief conference with Grant about this silly business on research and gave him a brief memo explaining the budgetary complication. In the afternoon I explained what was going on to the directors.

There was then a good deal of talk about R.R. Renne, a long-time Democrat, to be an Assistant Secretary of Agriculture in Baker's place. I was glad to see that busy day over.

Saturday I read and wrote some and in the afternoon Mommy and I attended the death services of Miss Ruth Nordin, a longtime SCS editor. Over the years she had been extremely helpful to me.

On Sunday I worked a bit on books, fixed some shoe molding, and watered some plants.

Monday, February 17, Guy Smith protested to me with great vigor and emotion this silly decision about the Soil Survey research. I spoke to Ken Grant about it just before lunch and asked him to see Guy. He said, "Send him up; I can see him now." I said, "No, he is too upset after talking with me." So we arranged for Guy to see Grant at 1:30. They talked for nearly two hours and I gathered that Ken learned more about scientific research than he had ever known previously. Ken apparently did some conferring and then called us both up about 4:00. He said, "Gentlemen, I made a very serious error, and I apologize. We should have had a conference in depth earlier. We will leave the Soil Survey research organization just as it is." We had a bit more conversation about how the research was handled and why. We also had some useful discussions of the whole problem of raising standards for academic excellence in the Service. He realized that they were very low and something should be done.

The next day I talked with Mr. Brashfield who will probably leave the World Soil Geography Unit to become assistant State soil scientist in Florida, with the likelihood that he will be State soil scientist in a year or two. I spent the rest of the day on memos and speeches mainly.

Wednesday was also a very busy day with memos and the like and with visitors.

Thursday, February 20 I went to the dentist in the morning and Mommy drove me to the office. That day also included several difficult memos including a decision of how to take a half-million dollar cut in soil survey field work.

I had another talk with Johnson explaining that I expected him to set up a definite schedule of work on the policy guide for the Soil Survey.

Our many memoranda contained both policy and scientific and technical guidance. We had been trying to get all these separated and I explained to Bill quite a long time ago that he should get at the policy guide. Near the end of the day I was told that D.A. Williams was in the hospital for a kidney operation.

Friday, February 21, was a holiday at home because Washington's birthday, a legal holiday, fell on Saturday.

The following Saturday was spent mostly in reading and writing except that we took Shem to the veterinarian for an operation to remove a torn claw. We had to leave him until the next day.

Sunday morning I hurried through the papers. The Dykes dropped in for a chat. Then we went for Shem. He was quite unhappy. The veterinarian had put a much oversized bandage on his right front paw. Once home, he tossed and tossed until he got the bandage off. But there was no bleeding and soon he calmed down.

About 3:00 p.m. Mommy took me to Friendship Airport and about 4:00 p.m. I was on my way to Dallas.

Then after a wait some of us took a limousine to the Texas Hotel in Ft. Worth.

I chatted with the men for a while, especially the heads of our cartographic units who were having a conference for a week.

Early February 24 Mr. McDaniel came for me and took me to the television studio. With no practise at all I gave a 10- to 15-minute interview on the use of soil surveys with engineering interpretations to

avoid the costly losses of highways, houses, and other buildings from slides, flooding, and many other hazards. I gave a brief history of this work and then used examples from Texas and the west coast. I pointed out the likelihood of very serious losses there within the next 3 or 4 months. Already the next day and later the newspapers had pictures of what I had just predicted.

McDaniel, the local district conservationist, and I went for a leisurely breakfast and then back again to the studio for another short TV speech to be used later on the world food problem. I think this went even better than the first one.

By 10:00 a.m. I was down to the Federal Building for the cartographic meeting. I spoke there on some of the points that were uppermost in my thoughts with special reference to two items: (1) To work out ^aresearch undertaking with some one of the state universities where we might test with actual users several forms of soil maps to find the ones that were most convenient to them. I suggested a township that is mostly rural and another with expanding population where we already have a published soil survey. (2) Continuing work to find ways to improve the cartographic excellence and appearance of our soil maps within reasonable cost limitations. Due to the absurd attitudes of Young and Williams we had cheapened the maps too much. Some of them were hard to read and did not look like maps made by professionals. It certainly is folly to spoil a map to save \$1,000 on a \$300,000 job. I warned them when they gave percentages of costs to use the whole cost of the project, not simply the map construction and printing.

As usual, these men presented some very interesting suggestions.

In the evening Bartelli and his wife came for me and we had dinner at the home of Mr. and Mrs. J.P. Kuykendoll. He certainly was not a

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well informed man. His wife collected "gingerbready" antiques of various ages. But the evening was relaxing.

Tuesday, February 25, I attended the cartographic conference. Johnson of Hyattsville gave an excellent paper on the use of digitizers and Hamm of Hyattsville gave a most excellent discussion of alternatives for improving published soil maps.

Sometime after lunch I went to the hotel and changed and then rode with Bartelli over to the RTS Center. Bartelli and Klingebiel were having some difficulties of communication and I believed that they could be resolved. Bartelli told me that the work with the engineers and the cartographers was going well but that the staffs in plant science and information were quite weak. For example, the State conservationist wanted a training school in writing but the information people were so poor that there was no one to give it. Bart is a good man and works hard but he is inclined to push ahead on his own a little bit too much.

We got in his car about 4:30, drove by his house for a quick one, and then went to a banquet meeting at 6:00 of the local Soil Conservation Society. They had about 100 or a few more, about one-third women. I addressed them on The potential arable soils of the world and critical measures for their use. It seemed to go unusually well. Happily, I was able to get back to my room about 9:30.

I had intended to go home on Thursday but since a strike was scheduled on American Airlines I had got my ticket changed to leave Wednesday.

I got up early on February 26, packed, and checked out of the hotel. Bartelli came by about 7:50 and we went to his office. There I talked with Godfrey of Texas A. and M. who was promoting a big tropical soil conference in Puerto Rico in August. He said he had about 50 lined up to

go and that he wanted me and several others of the Soil Survey to come. I had to explain that with the financial outlook I could not promise it.

I then took an extended tour through the newly arranged Cartographic Unit where everything looked clean and orderly. They had a large volume of work in all phases of the Service program, including a good deal of engineering work for Watersheds. I also went through the new Soil Mechanics Laboratory. It was equipped to handle quite a bit more work if needed.

Bart and I went to lunch and had some talk afterward.

A little after 2:00 p.m. he took me in a government car to the Dallas airport. On the way he showed me the route of the parade and the spot where John F. Kennedy was murdered.

I relaxed a bit in the airport and left for home about 5:00 p.m. The plane was nearly on time at Friendship and we were home about 9:45.

Thursday, ~~March~~ ^{Feb} 27, I spent most of the morning in conference about "SCS objectives." The boys had done a pretty good job but left a mess of difficult letters and memos so I had to leave some for the future.

In the late afternoon I began to feel a little dizzy.

Friday, ~~March~~ ^{Feb} 28, I had many more of the difficult memos and letters and several short conferences.

About 3:30 I went to a retirement party for Governor Robert Tootell of the FCA. It was very nice and a bit sad. Thus leaves another of the few really good men in the South Building.

Again during the last hour in my office the dizziness came back.

That evening Mary Alice and the children were over for the occasion of her birthday.

Saturday, March 1, I was dizzy off and on much of the day. I talked with Dr. Rosenbaum but he didn't think it was anything serious.

It came on when I changed positions from sitting to standing and so on, so I did little besides read.

In the late afternoon it began to snow. This continued during the night.

Sunday, March 2, it snowed lightly. My dizziness was about over. Anyway this was a good day to stay at home.

All the forenoon Monday, March 3, I talked with Swindale of FAO about mutual problems, including my proposed visit to FAO near the end of March for a conference on basic agricultural research in African countries south of the Sahara and north of the Union. Some time ago I had sent a strong letter to FAO urging that they get out a third edition of The efficient use of fertilizers before Dr. Ignatieff left sometime in August or September 1969. He told me that it was now arranged that following his retirement Dr. Ignatieff would have a contract to do this job. Then I waded into the many memos and letters.

Tuesday, March 4, I learned of a very bad move made by the new Secretary, Clifford H. Hardin. A few years earlier some of the experiment station directors insisted that the Office of Experiment Stations within the Agricultural Research Service fared badly because in the requests for federal appropriations Byron Shaw favored appropriations for ARS over those for the experiment stations. This was untrue yet Secretary Freeman pulled out this little group, renamed it the Cooperative State Research Service, and gave it separate status. The dogmatic, opinionated, then director of the Oklahoma station, L.E. Hawkins, political^{red} hard for the job of heading it. He was in no way qualified. Instead, Dr. Theodore C. Byerly was made head. He had been deputy administrator of ARS.

Hawkins did all he could to poison the other directors against Byerly. In 1966 a successful attempt was made to get appropriations for grants to experiments stations for specific research undertakings instead of adding these amounts to the ARS. Hawkins was able to turn this around completely to claim that it was a move by USDA to get control of research planning in the experiment stations! Apparently the new Secretary believed this stuff enough to take Byerly out of his position and make him an assistant to the present Director of Science and Education, Ned D. Bailey, whom all of us hoped was strictly temporary. Bailey had been appointed to fill in a few months after Assistant Secretary Mehren resigned. I know this business must have hurt Byerly a good deal because he had done an excellent job for the experiment stations.

Wednesday, March 5, I had several interviews and worked on memos and letters. This activity continued through the rest of the week. On Thursday the top staff in the Forest Service gave me a beautiful book on the National Forests, signed by all of them. I also had two long conferences about speeding up the editing of soil surveys. It all came down to needing more people as competent as the ones we had.

Saturday, March 8, I worked on books and had about three hours in the garden.

On Sunday I worked on books.

Monday, March 10, I took care of the usual memos and letters and got rid of some of the extra maps and books in my office.

The next two days I had a few visitors from our State offices and prepared material for the hearings in the Congress.

The hearings came on Thursday afternoon, March 13. Somehow the House committee had gotten way behind and instead of having four hours we had a

bit less than two. By the time Ken Grant had read his statement and chairman Jamie Whitten had made his usual speech most of the time was gone. There were a few questions and then Whitten left. Congressman Natcher read a whole list of questions and asked us to put the answers in the Record and any others that we thought would be helpful.

Friday, March 14, was extremely busy with all sorts of memos and preparing material for the hearings. Then in the afternoon I had a conference in my office with Ralph Phillips, Ken Haines, Carl Ferguson, and Omer Kelley about the conference in Rome at the end of March. Nobody seems to have a very clear idea of just what the final agenda will be nor just what countries will be represented so I will have to play by ear.

Saturday the 15th I worked on books, writing, and reading. And the next day I had to water the garden already.

March 17 and 18 we had conferences with Tom Helseth, state conservationist for California and Wohletz, his assistant, on soil surveys in California. This fellow Wohletz, former state soil scientist, never recovered from his "nervous breakdown." He was actually living in a dream world of politics and influence and could not speak rationally. It was a pity that he was representing the Service with some of the county committees. Some small part of the confusion was due to slight inconsistencies about regional and Washington clearance of the soil survey manuscripts in memos of the information series and those of the Soil Survey series. We planned for the new head of Information, Hubert Kelley, to go on the California Soil Survey appraisal with Louis Derr. Kelley was far more vigorous and helpful than the previous head.

(Rome) March 21/1969-1097-

The local planning boards or county boards in California were so anxious for soil surveys that they contributed funds. Yet a high percentage of the money they made available had to be wasted on quicky, interim reports that were poorly edited and unneeded, except that Don Williams had forced us to be very far behind in publication.

The rest of the week was very busy. I had talks with several State conservationists about Soil Survey problems. Many of their troubles were due to attempts to make use of old poorly made soil conservation surveys as parts of published soil surveys. I had to explain that our cartographers could not handle these jobs, and without enormous expense that their soil scientists in the state would need to transfer the lines and symbols, after soil correlation to new aerial photographs. Most of them will need field checking after that.

Also I had to get all of the plans and materials I needed to leave for a conference in Rome. I was the head of a small delegation for the United States to meet with several other countries at FAO in Rome to review the proposals that had been made for new research in Africa south of the Sahara. Information sent from ^{Rome} about the agenda and about what countries were to take part was inadequate. I also planned a little leave before and after the conference.

I was up early Friday, March 21, to water the garden. Mommy took me to Friendship Airport and I left for NYC about 12:30. I checked in at Kennedy Airport for the flight to Rome and spent the afternoon in the Clipper Club.

I arrived in Rome about 9:30 a.m. Vladimir and Florence Ignatieff met me and we chatted in their apartment very vigorously.

After lunch we went downtown. I bought a few things and especially looked at paintings for our newly built room.

7 Sunday, the next day, it rained much of the time. We expected to look at more paintings. In the afternoon we visited San Clemente Church built by Irish Dominicans who escaped the British terrors in Ireland. After building the church they excavated the old ruins underneath it and uncovered a very early Christian church of Roman times. Then beneath that they found and restored a Roman villa. Under that they had partially excavated and restored an old Etruscan ruin. It was a most interesting place. Of course with the deeper foundations nowadays that same thing is happening in most of the old cities. For centuries people have brought in stones, brick, sand, and gravel to build. Very little was ever taken out.

Two Canadian ladies from Montreal came along. In the evening they had dinner with us chez Ignatieff along with Mr. Finn -- a Canadian who formerly headed the fisheries division in FAO. He had retired to a small castle near Assisi.

Monday, March 24, Florence and I went shopping. I bought gloves, ladies bags, and so on and a nice painting of a peasant girl by Cafrà.

We went back for lunch and had much talk. I called ^{Saouma} ~~Sauma~~ at FAO and made an appointment to discuss an arrangement for Ignatieff to work on the Efficient use of fertilizer after his retirement.

After lunch Florence took me out to the American Embassy where I got a few papers from our office of FAO liaison. We also did some more shopping including ties and decorative tiles. We looked at many paintings most of which I did not like at all.

We went in the evening to the Swindales for dinner.

Tuesday, March 25, I was up early and had a long talk with Ignatieff and took a walk. About 11:00 Florence and I visit an art critic who had many "way out" paintings that are not to my taste. In another shop I did

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see a painting I liked by a Roman artist, Canevari -- "The nun and the little red priest" which I later bought. It still rained off and on.

I visited the American Embassy again for mail but there was very little.

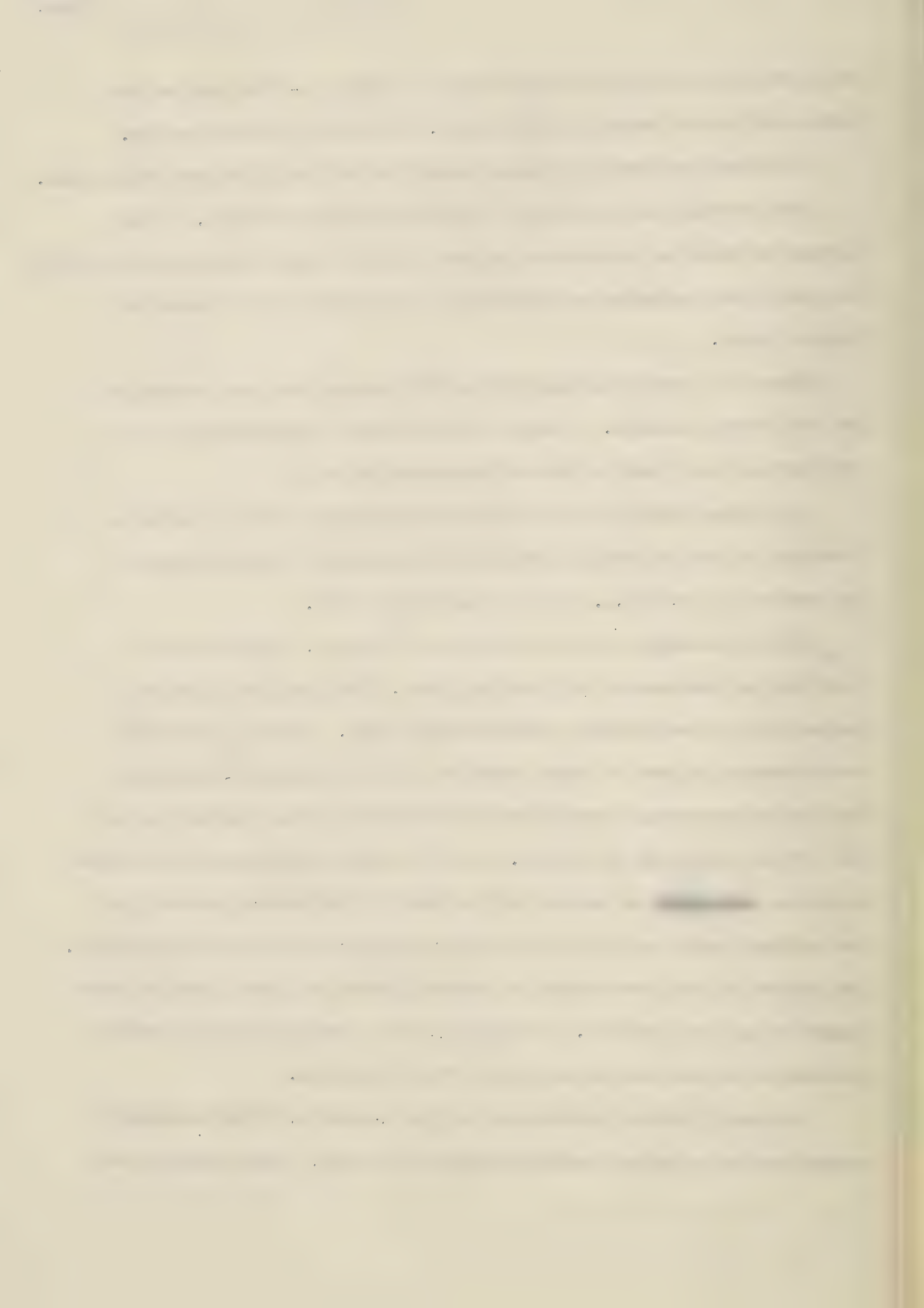
That evening Ignatieff and I talked about the conference. I had planned to break my return trip in Paris but with these two paintings to carry that would be a nuisance so I decided to try to change my tickets for a direct flight.

March 26 I went with Ignatieff to FAO headquarters and arranged to get the tickets changed. I could tell then that I was developing a very serious cold just as the conference was to begin.

The Ad Hoc Working Party on Measures for Closer Cooperation in the Provision of Aid to African Countries in Agricultural Research began its meeting at 10:00 a.m. in the German Room of FAO.

After introduction of the officials of FAO, Mr. Anderson of FAO took over as chairman of this working party. For the first time it became clear to me what the conference was about. FAO had had several conferences with some of these countries and the Academy of Sciences of the USA had sponsored a conference with representatives from several of the African countries at Abidjan. At all of these conferences the African countries ~~especially~~ of central Africa south of the Sahara, especially of the northern part, had put forward several projects but without priorities. The purpose of this meeting was to discuss priorities among possible donor countries and institutions. For example, the Rockefeller Foundation had a representative who also spoke for the Ford Foundation.

Previously FAO had issued some working documents, which enormously overemphasized a big and useless concept of ecology. They used the term



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"Sudanian Zone" for the so-called dry savanna areas just south of the Sahara. This zone did include parts of several countries. Also, much was said about the Guinean Zone. A man named Devred explained the great importance of organizing research by ecological zones. A long and illogical document about this had already been sent out in advance.

I attacked this concept as too vague for any usefulness unless it were defined to include only "potential ecology." The existing plants and animals in this whole region were the result of thousands of unrecorded and unknown accidents since the end of Pleistocene some 10,000 years ago. The only thing that we could tie to specifically were the kinds of soil and the current climatic conditions. These conditions had changed considerably. Many of the soils on stable landscapes had characteristics inherited from previous climatic and biological conditions. Through their study we could establish the ecological potential.

After this preliminary session I had lunch with Ignatieff, Swindale, Saouma, and others to talk about arrangements for Ignatieff to work on a third edition of the Efficient use of fertilizers after his coming retirement or along about the beginning of calendar year 1970. Everybody seemed to agree.

Then we went back to the meeting to continue the discussion. We had a considerable discussion of the promising new varieties and some review by Dr. McKelvey of what was proposed for their new staff in Nigeria.

Dr. L. D. Swindale of FAO made an excellent talk about the soil problems of the general region, including a little about the Congo. He also pointed out the enormous amount of cooperation that had already taken place over several years among these countries on soil classification and soil management.

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During the coffee break several thanked me for my comments on ecology and it was obvious that I had the support of nearly all the delegates.

Delegates were there from the following countries: Belgium, Germany, France, Italy, The Netherlands, the United Kingdom, and some of the public agencies, such as OECD and the International Bank. Curiously, France had delegates from their research institutes working in Africa. My friend, Georges Aubert, who has picked up a lot of weight recently, represented ORSTOM. Then too, each important division of FAO had a man present a working paper on each of the topics we were to discuss or a group of topics.

During the coffee break a man, whose name I failed to get, told me that he had just visited recently the top soil scientist, whoever that is, in Cuba. Back of his desk he was said to have the Cuban flag with a photograph of Castro on one side and the photograph of Charles E. Kellogg on the other.

At the end of the session the Ignatieffs and I were invited to dinner, but I was feeling so miserable with a cold that Florence got me out of it and we went back to the apartment. I went to bed early with a small pitcher of rock and rye.

During the next day at the meeting we continued through the principal items in a detailed working paper developed by FAO.

Again there came up this question of potential ecology which I discussed briefly again.

I also laid great stress on the need for market development and storage. In some earlier papers I had seen about the Abidjan conference some had given this altogether too low a rating.

Then too, I brought up the question of water storage for nomads like what was done by the Romans in Algeria.

Also I entered a discussion on the problems associated with shifting cultivation and especially with a change in the system to open field cultivation that brings on enormous weed problems.

I was sitting near Dr. R. K. Cunningham, the representative of the United Kingdom, who struck me as a very knowledgeable man. He again thanked me for the help I gave him about three years ago during a conference in my office. I had completely forgotten him and the conference. He asked me a good many questions about college curricula, especially for first year students.

I went home directly after the conference with a very bad cough.

On March 28 Ignatieff and I went to FAO about 8:30 and got my new tickets for a direct flight from Rome to New York.

We had much talk about problems of indexing agricultural research projects.

We had quite a lot of interesting discussions about what can be done and it seemed to me that some items had reached reasonable consensus.

At noon, Orris Wells, Deputy Director General of FAO, was host for a few of us from each of the special sessions taking place in FAO, including this one.

My cough was so bad that I was barely able to keep going at these sessions but I did. Dr. Omer Kelley, who had been there the first two days left for home quickly.

In the afternoon I pointed out that most people seemed to agree on the program laid out by Dr. Swindale. He had said that a large background already existed within the African countries and many of the donor countries for a good start in soil survey and management to go along with the new varieties and the other inputs.

Also I pointed out, that it seemed to me that nearly everyone was anxious to do what could be done to reestablish the INEAC in the Congo. This great research organization had developed during the 1930's, 1940's, and 1950's, research results of enormous importance to all tropical countries and it would seem that prospects for its rehabilitation were reasonably favorable. I explained that although I could not speak authoritatively for my government, I felt that it would look with favor on the attempts to bring this activity into full development again.

Also questions came up about U.S. cooperation with the Committee of the Organization of African Unity. I had to pass on that one.

Near the end we had a long discussion of the so-called Guinean Zone. As Dr. Cunningham pointed out, this zone is defined too broadly to have much unity since it includes southern Ghana, Nigeria, the Congo, and even Madagascar. Certainly this needs more study.

At the end, the proposals I put forward on soil management and on INEAC were strongly supported by the United Kingdom, Belgium, France, and others.

(A copy of our final U.S. report is attached.)

When the conference was over and we got back to the apartment, I received a call from the American Embassy that an important letter was there for me. So Ignatieff went over for it. When he brought it back, I opened it. It was my instructions for the conference which had already been concluded for three hours! What a silly business.

That night I had a mustard plaster and almost continual coughing that could be alleviated a little by rock and rye.

REPORT ON

AD HOC WORKING PARTY ON MEASURES FOR CLOSER COOPERATION IN THE
PROVISION OF AID TO AFRICAN COUNTRIES IN AGRICULTURAL RESEARCH
FAO, Rome, Italy, 26-28 March 1969

By
U.S. Representatives:

Dr. Charles E. Kellogg
Deputy Administrator for Soil Survey
Soil Conservation Service, USDA; and

Dr. Omer J. Kelley, Deputy Director
Research and Institutional Grants Staff
Office of the War on Hunger, AID.

The principal working documents are as follows:

AAR/69/0 March 1969. This is simply a summary sheet explaining briefly the purpose of the conference.

AAR/69/1 March 1969. This is a provisional agenda for the conference.

AAR/69/2 March 1969. This document, including annex #1, was the chief working document used during the conference and is the one used to outline this report. The document summarizes the outcome of a meeting in April 1968 at Abidjan. The attached annex deals with the relevance of ecology as a basis for organizing research in contrast to a geopolitical basis.

AAR/69/3 March 1969. This document briefly suggests the preparation for a conference on an agricultural research program on an ecological basis on the Guinean in Africa in 1970-71.

AAR/69/4 March 1969. This document deals with the establishment of an African Index of an agricultural research project.

The working party began its deliberations about 10:00 a.m., Wednesday, 26 March.

After introductions by officials of FAO, the chairman, Mr. Anderson, introduced several people in FAO who were prepared to make statements on the principal items of working paper AAR/69/2. The provisional agenda (AAR/69/1) was read and discussed briefly. It was explained that item 4 on an African Index referred to lists of only actual research projects.

Mr. Bruce of FAO gave a history of efforts in previous meetings, including one in November 1968 held in Rome. He referred also to the conference held in April 1968 under sponsorship of the U.S. National Academy of Sciences at Abidjan.

The purpose of the previous conference on the Sudanian Zone was to list some of the more critical research needs as seen by the individual countries in that zone just south of the Sahara.

It was pointed out that the current working party, representing possible donor countries and agencies, should appraise the previous proposals and perhaps gain some general agreement on priorities.

At this point in the discussion we did suggest a clarification of many statements about organizing research programs in Africa south of the Sahara on an "ecological basis." The kinds of soil and climate, and their interactions, do form a basis for ecological potential but the current vegetation does not help much since it depends on a whole series of undescribed accidents over the past 2,000 years or more. Unlike savanna can be found on identical kinds of soil and like savanna on contrasting soils. Most members of the working party agreed with this point of view so far as we could determine.

It was agreed that the 19 problem areas referred to in document AAR/69/2 were important to at least some people attending the earlier African meetings, but no priorities were placed on them. Apparently the primary objective of the meeting in Rome March 26-28, 1969, was to get some consensus on possible financial support from donor countries or organizations to increase research on these projects. No specific commitments were made by the participants, but the meeting was helpful in clarifying the problem areas and in getting some general feeling of what the priorities should be. Some work being done was discussed although no attempt was made to have a complete listing or discussion of all active research work.

It was then generally agreed that we should go through the principal substantive items listed in the working document AAR/69/2.

3.1. Soil Resources and Soil Management. Shortly after the close of World War II soil surveys had been emphasized in several African countries and a good deal had been accomplished. Yet up to the present there has been little active cooperation or discussion among the new African countries themselves.

Dr. Swindale of FAO pointed out that varying amounts of soil survey work had been carried forth in all the countries in the Sudanian Zone. There has been considerable cooperation among several of

these countries through the Commission for Technical Cooperation South of the Sahara. There remains, however, a need for full cooperation and standardization of methods so that soil surveys can serve as a basis for spreading the results of research. He proposed some regional conferences toward this end. The Government of Sudan has expressed willingness to undertake leadership in this work in cooperation with FAO. Of course, some assistance could be expected from the French ORSTOM and the Inter-African Soils Bureau of the OAU. FAO is prepared to furnish a full-time expert to assist. Then too, it was proposed that there should be a session in 1970 in Africa on soil management. It was hoped that it would be possible to organize a 10-day technical conference on soil conservation for the African region. Such a conference would deal with the problems of shifting cultivation, overgrazing, soil blowing, water control, and the like.

One component would deal with the technical, legal, social, and economic aspects of soil conservation; the other component would be devoted to field trips and observations. There was general agreement that such a conference would be desirable. (In private conferences outside of the meeting Dr. Swindale and Mr. Rees asked Dr. Kelley if AID could help finance the attendance of scientists at these conferences in those countries where AID is active. Dr. Kelley agreed only to take a prepared summary of their project with him and discuss it with the Africa Bureau, who in turn could communicate directly with the Bureau.)

Another proposal dealt with the need for additional soil management information, especially relating to those soils under shifting cultivation, and the necessity to stabilize the farming. Recognition was given to the considerable research done on this subject but more is needed. There was some discussion concerning the development of a regional research program or institute in soil management and soil fertility to assist in the more fundamental studies and in coordinating the present and future work. It was also recognized, however, that national programs concerned primarily with local problems are a requirement. Again suggestions for periodic national and regional conferences were made. Dr. Swindale stated that he thought it was desirable to attempt to set up a Pan-African Soil Conservation Society that could meet periodically. Again, donor funds would be needed to hold such conferences.

3.2. Surface and Underground Water Development and Control of Optimum Range Utilization. This problem of improved water supplies is especially important in parts of the Sudanian Zone. Beyond recognition of its importance, details were not discussed.

3.3. Establishment of Germ Plasm Banks and Testing of Promising Crop Varieties in the Participating Countries. Dr. McKelvey of the Rockefeller Foundation pointed out that much is being done on germ plasm banks throughout the world. For example, he cited research on sorghum in the Congo, Ghana, and Nigeria, their work in India, and USAID work at Purdue. He did not believe additional germ plasm banks in the Sudanian region in Africa would duplicate that now being done. Also included under this heading were recommendations for uniform trials of high-yielding varieties of various crops to be carried out throughout the region. One of the recommendations was that FAO should appoint two regional coordinators in the Sudanian Zone--one for cereals and one for ground nuts and legumes to assist in coordinating between their member countries and in introducing and testing promising varieties.

Dr. Kelley reviewed AID's cereal work in Nigeria pointing out that the work on corn, sorghums and millet relates to the Sudanian Zone and problems under consideration. Since this is a complete project involving also soils, water, and fertility, this project relates to many aspects of some of the other subjects under consideration.

3.4. Setting up an Organization of Plant Quarantine Stations and Services in West Africa. It seems to most people that this problem of quarantine stations would be a bit difficult in the initial stages of cooperation although the need for them was not questioned.

The importance of preventing plant pests and diseases from entering uncontaminated areas was recognized, but several felt that plant quarantine stations might serve as a hindrance to bringing in new varieties, with new germ plasm, and hence slow down the process of development. There was also a question of how adequately a strict quarantine program could be carried out.

3.5. Control of Rats and Other Rodents. This is a very serious problem in the Tropics. Mr. Whittimore of FAO emphasized the importance of local study of the biology of rodents in order to understand how they may be controlled or destroyed. Experience indicates that chemical poisoning has only a temporary effect. Even the same kinds of rodents behave differently in different situations.

3.6. Study of the Control of Storage Pests at Farmer and Merchant Levels. Mr. Whittimore again pointed out that paints that reflect light are helpful and also good aeration. Certain poisons could be used but so far FAO had not been able to get from WHO alternative statements on the minimum amounts of carbon tetrachloride that would be safe. Most members of the working party agreed that this item should have high priority.

3.7. Study of Nomadic Grazing and Survey of Native Grasslands.

FAO stated at this point that the staff was not too well informed. It was pointed out that much of this area in Africa lacked live-stock markets with fair grading. We pointed out that perhaps something could be done through water storage, near lower lying responsive soils, to furnish feed supplies for the dry years. Such areas could be associated with marketing facilities. The Rockefeller Foundation has a senior staff worker, evidently Dr. Glen Beck, at Ahmadu Bella University in Nigeria to study this problem of nomadic grazing. It is as much a social problem as the one of soil and water. The FAO statement overemphasizes the existing vegetation as contrasted to determining from the soil and climate the potential vegetation with improved grazing practices and water conservation.

3.8. High Yielding Fodder Crops and Forage Conservation.

Mr. Peterson of FAO discussed this topic and the previous one. Here too, the problem is one of discovering the ecological potential under appropriate levels of storing water and its conservation. We and Professor Aubert stressed the importance of efficient water use in relation to soil characteristics.

3.9. A Study of Intensive Fattening of Young Cattle Bred in the Sudanian Zone, Using Local Concentrates and Fodder. Mr. French presented this item and the following ones through 3.13.

These discussions on livestock in 3.9, 3.10, 3.11, and 3.12 were a bit general and emotional. It was pointed out that, as animals produce more milk for sale, some alternative way must be found to feed the calves.

3.10. A Study of the Relative Advantages of Use of Livestock for Meat and/or Milk Production. With more milk sold, farmers would need other protein sources for the calves.

3.11. Semen Banks for Animal Genetic Resources. It was agreed that good feed is necessary to take advantage of crossbreeding and that it seems too early to decide which local sires are best. Some might seem best under bad conditions, but with adequate feed others would be better. Then too, some members pointed out that some good local strains of cattle, well adjusted to the local area, can be lost with careless crossbreeding.

3.12. Survey and Studies on Morbidity and Mortality Factors in Young Animals. This was passed over quickly at this stage.

3.13. Mineral Deficiencies in Livestock. This is regarded as an important problem but that equal attention should also be given to the possibilities of excesses of certain trace elements as well as deficiencies. It was indicated that FAO intends to bring together the knowledge available in this field and prepare a bulletin on it.

3.14. Studies and Achievements Envisaged in the Field of Contagious Bovine Pleuro-pneumonia. Members of FAO and members of the working party agree that this is a problem of growing importance and more difficult to control than Rinderpest. Even animals cured of the disease can still carry it and the urgently needed vaccines are not yet available.

3.15. Regional Project on Rice Research. Both Dr. McKelvey of the Rockefeller Foundation and Dr. Kelley of AID agreed to try to develop a plan for a rice institute, perhaps in Sierra Leone, and the French and the United Kingdom also agreed to assist. Further discussion was postponed for a special later meeting on this subject.

3.16. Research on Cropping Systems. We pointed out that all cropping is in some kind of system and that it is not possible to deal with the components separately. In each system, variety, soil fertility, water and air in the rooting zone, and pest control are vital.

3.17. Regional Research Project on Farm Mechanization. Mr. Voss says that FAO is now collecting information on the present use of machines in Africa. It is hoped that a French-speaking center and an English-speaking center can be developed for a collection and trial of machines from Africa and also from India and Japan. Details of such centers would need to be worked out later with the individual countries.

3.18. Phyllody of Cotton. This was passed over quickly as a special problem suggested by Upper Volta.

3.19. Control of Striga. This problem was put forward by Scherrod. Several pointed out that the problem is serious in several parts of the Sudanian Zone. It is related to solutions of nomadic problems, which require some increase in cereal crops. The problem will be gone into in more depth, we are told, at a meeting in Dakar in 1970.

Two additional items in AAR/69/2 were discussed:

Item 4. Under the broad heading of organizational arrangements for implementation of an agricultural research program, there was much discussion about impinging on the national governments in the zone. Some felt that the actual priorities should come from a committee of African research directors of the 20 countries. These directors might have subcommittees of specialists. Still others felt that such a large group would be unwieldly and that a better start could be made by working with a few directors at a time from three to five countries. Then too, one must recognize the fact that it would be difficult for many of these countries to finance the cost of travel and so on for their directors and their specialists.

Item 5. Establishment of an African Index on Agricultural Research Projects. FAO has taken the initiative and is presently working out an Index as referred to. Their first Index will consider only work done in Africa and will not include work done, for example, in France or Belgium on research problems applicable to Africa. Professor Aubert of France stated that they were doing research in soil phosphates in laboratories in France from samples taken in Africa. These would not be included in the first indexing. This was considered a worthwhile project and FAO should continue and keep it current with the expansion of other related work, including that being done elsewhere but specifically on African problems.

A question was also raised whether or not the Government of the United States would be in a position to give some bilateral aid to a committee of the Organization of African Unity. Of course, we were unable to answer this specifically.

Near the end of the conference it was agreed that the FAO secretariat would make an attempt to do a draft on the sense of the discussions, which would be circulated among us for review. Several made long talks about indexing and computerizing both the research under way in the African countries and the results of previous research.

Also the question of the work in the Guinean Zone came up briefly with emphasis on the Congo. As proposed briefly, this zone would include most of Africa north of the Union and south of the Sudanian Zone, even including Madagascar. Dr. R. K. Cunningham from the United Kingdom suggested great caution in proceeding with such a large and variable group of countries. We were inclined to agree. We proposed that, as a start, it would be well to do what seemed reasonable to rehabilitate the INEAC (Institut National pour l'Etude Agronomique du Congo) in the Congo. The researches of this network of experimental stations were important, not only to Africa but to many other parts of the world. An enormous amount of excellent research had already been done during the many years before 1959. The Congo basin has not only good soils but enormous supplies of water, both for farming and for industry. Also rehabilitation of these stations would make much more effective the planned programs of the Ford and Rockefeller Foundations being established in Nigeria. So far as we could determine, all participants agreed with this objective, provided it could be worked out in a practical way.

We also suggested that an immediate start could be taken with great benefit on the study of soil resources and soil management for the Sudanian Zone as outlined by Dr. Swindale of FAO in his opening paper. This too seemed to have general agreement.

The conference ended about 5:00 p.m. 28 March. We were promised a draft summary by the FAO secretariat to react to. This has not yet reached us. Some of the FAO staff work during the conference was excellent; some was indifferent.

After Florence' treatments I felt somewhat better and worked on the conference notes all Saturday morning. Then we went shopping. I bought some more ties and bags and bought one nice bag for Florence without her knowing for whom it was intended. The shops there were all mixed up with no particular pattern. Not many were open on Saturday.

In the afternoon I took a short walk and since Ignatieff planned on Sunday to take the Montreal ladies to the Vatican, I bought a little rosary for him to display and receive the Pope's blessing for our neighbor Rita Toomey. That evening my cold was worse and Florence applied a mustard plaster and gave me much whiskey and sugar to sip.

Sunday, March 30, it was cool and moist. I rode along in the morning while Florence took Vladimir and the two ladies from Montreal for the blessing of the Christians by the Pope. Florence and I had a long talk at lunch. Then we went to see Mr. Milton Hebard, who made the bronze of James Joyce for the new grave site of Joyce and Nora in Zurich. He and his wife showed us many of his things in bronze and marble but most important of all was a copy made by him, about 18 inches high, of the bronze of Joyce. He said that this was the last one and priced at \$1,250. We chatted in his studio about Joyce and he took 20 percent off the price. I explained that I could not make that decision without discussing it with my wife. I took his address and agreed to send him a copy of A Joycean holiday in the "American Book Collector."

In the evening I settled up with Florence who had advanced me some Italian money in the beginning and then gave her the bag as a hostess gift.

March 31 I was up early, after a rather restless night from coughing. About 9:25 we left for the airport and I boarded the plane at 10:30 for New York. We were down in Kennedy Airport at 3:57 EST. We were rather slow getting started through customs because of slow baggage handling.

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After I got my bags, and with my little bag and painting under my arm, I started for the inspectors. One came to me and said, "You don't have more than \$100 worth of merchandise nor more than a quart of whiskey do you?" I said, "No," and he shoved me away. After some wait I got a bus to the Eastern terminal, confirmed my reservation and called home. Apparently both Mommy and I have severe colds. I did have a big job in finding out for sure whether my bags were properly checked for Friendship. The plane was quite late and lost more time after landing. Finally we were down in Friendship at 7:28 and home at 8:30.

On April 1 I stayed home and nursed the severe cold, which only gradually disappeared in the weeks ahead.

Wednesday, April 2, I attended the Senate hearings which went unusually well and then attacked the big accumulation on my desk.

The next day I attended a luncheon at the Brookings Institution put on by Marion Clauson for several of us to meet advanced students in political science from foreign countries. It wasn't very well organized.

On Friday, April 4, I got through the worst of the correspondence and dictated a draft of my report to the State Department.

Over the next weekend I made a start towards catching up in the garden by applying fertilizer and compost.

Monday, April 7, I learned that Ken Grant's mother had died and I had to take his place for a special program and speech in Batavia, New York. Fortunately I was able to get a copy of the newly published soil survey of Genesee County to take along. Four sheets of this survey join in Batavia.

When I first opened it I discovered that through a printer's mistake of not keeping the type clean, on one sheet Batavia appeared as "Baravia" because the upper part of the "t" was obscured. But this was nothing compared to the errors in the Ionia County, Michigan one I had to introduce a year earlier.

April 1969

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Early in the morning of April 8 I had a talk with Carl Ferguson of AID. I left the airport about 11:20 and was down in Rochester at 1:14. Here I was met by the state conservationist of New York, Mr. Anderson; our local district conservationist, Mr. Hoffner; and Mr. Henry G. Mosbaugh, a director of the Genessee County soil conservation district.

First we made a tour of the suburbs of Rochester. These people have certainly made a mess. Vast areas are covered by factories, homes, shopping centers, and huge parking lots. It is inevitable that the flood peaks of the river and its tributaries will be much higher and more frequent. On some of the hilly lands made up of silty, fine sandy soil materials of lacustrine origin and dissected by streams, people have removed much of the forest and increased the water content by local sewage systems. Enormous ice crystals form in this stuff and many of the roads and houses are seriously threatened. Many of the houses had cost \$100,000 to \$250,000 apiece. Only very expensive works can save them. Unhappily for the public, the owners may have the political power to get these very expensive works done at a public cost far exceeding the value of the homes.

Later in the afternoon we drove to Batavia and first visited a proposed small watershed project on Oak Orchard Creek. The main purpose of the watershed plan was to protect some 6,000 or 7,000 acres of excellent muck soil, used mainly for onions and potatoes, from flooding and from drying in summer. It looked like a good project to me but would involve a small amount of water storage. Lower down the stream were one Federal wild-life refuge and two state ones. Apparently the "wild lifers" will try to block the use of the small amount of water to protect the muck soils.

I was amazed at the large number of people at the banquet held in the fire hall. This had been arranged by the Agricultural Stabilization and Conservation Service, Extension Service, and SCS along with the local

Soil Conservation District. Then too, district supervisors and people from state and federal agencies in adjoining counties were there.

My talk was a mixture of Grant's original speech and my own notes.

I also presented the published Soil Survey of Genessee County.

The next morning Wally Anderson took me back to Rochester for the plane.

I was much pleased with this trip especially to note the very great improvement in Anderson as a state conservationist.

I was back in my office about 1:45 on April 9.

Thursday, April 10, I caught up on my correspondence and spent most of the afternoon talking with Ted Ruprecht from the population center of OECD in Paris, on agricultural development in the emerging nations.

The next day I cleaned up the desk and the rewritten handbook on soil survey manuscripts.

That evening we met Mrs. C.H. Edelman at dinner chez Leforest Miller.

The week end as usual was spent in the garden.

On April 11 I drove to the office and spent about half the day with Paul Carroll planning his trip to Kinshasi. He was asked, at my suggestion, to go there for AID to advise on the possibility of using some poor sandy soils near the city for vegetable growing with sprinkler irrigation. I had never looked at these soils to amount to anything because of their poverty. The soils are developed from cover sands blown out of the Kalahari Desert far to the south. Apparently the good communication systems the Belgians had have broken down. They would not have used these soils since much better ones were not far away. Then too, I am sure that every Congolese *Poor Paul Carroll; he is too much of a scholar for SCS* hopes to make his fortune in politics in Kinshasi. *A*

During the next two days I finished a fair draft of my report on agricultural research in Africa south of the Sahara. I also sketched out a rough outline for a paper that FAO had recommended that I give at a UN

April 1974

meeting in 1970 on "Soils and human welfare."

Friday, April 18, I was acting administrator. We had a good short staff conference. Despite administrative mail I also got caught up on my own mail.

The next week end I cleaned the ivy in the banks and transplanted a great many new ivy plants to replace those destroyed in the building of the new room.

Monday, April 21, was spent with mail and several conferences. The next day I had a good conference with K.H. Hafit of Israel about some of their problems.

On April 23 I spent quite a bit of time with Mr. Carl Dorny and his staff on the accomplishment records and finances of SGS in Wisconsin. I was scheduled to make a state-wide review of the work in Wisconsin during the week of May 11.

On April 24 I stayed home and worked in the garden until 11:00. Then I went to Montgomery Junior College at Takoma Park, had lunch and spoke to the students on the world food problem with special emphasis on soils and agricultural planning. Mommy came for me at 4:00 and we got the Cafrá I bought in Rome properly framed. I lugged the one by Canareri (already framed) home on the plane.

The next day was routine and the weekend I spent in transplanting my azaleas from the nursery and the cuttings to the nursery.

April 28 and 29 were mainly correspondence and conferences. I learned that the committee did not approve the Distinguished Service medal for Carl Dorny. These selections were made by Freeman's boys just at the end and he had already used up most of the spots for the gold medals, including one for Ken Grant. I believe that Grant was considerably embarrassed by this.

Wednesday, April 30, Hollis Williams showed me an irresponsible memo signed by M.L. Upchurch opposing for absurd reasons the draft report of the

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-1109-

Water Resources Council on revision of the old cost-benefit ratios for water projects. I spent quite a while during that day and the next writing a critique of this business and explaining to Hollis again the general theory of the "multiplier factor". I loaned him Economic Philosophy by Joan Robinson. In fact I had already loaned my copy to Wadleigh and I bought another for Hollis.

On May 2 I was acting administrator again but managed to keep both desks reasonably clean.

The week end was again on gardening. Bill and Carol Johnson called at tea time Saturday and Jeff and Martna Dykes called at tea time on Sunday. (This suggested one of Mommy's little conspiracies.)

Most of the next week was routine plus preparing for the visit to Wisconsin the following week and drafting a long support letter for Roy Donahue to receive the International Award of the American Society of Agronomy.

Saturday, May 10, I spent a long day pruning azaleas.

The next Sunday I left home about 10:00 and reached the hotel in Madison, Wisconsin about 3:10 p.m. C. Dale Jaedicke, director of the regional center of the Service at Lincoln worked with me on the review. He brought his wife with him.

On May 12 we first met with the state conservationist, Mr. Russell, and his staff.

About 9:10 a.m. Jaedicke, Russell, Bob Hilliard, and I left by car to visit the work around Waukesha. Wisconsin had had a lot of rain but this day was beautiful. We arrived at the SCS office about 10:30 and met Howard Hass and Joseph Steingraver.

In the seven counties of south eastern Wisconsin we have had a great deal of soil survey work financed partly by a state regional planning commission for southeastern Wisconsin. Most of it was finished except for publication.

Because of the silly delays both we and the commission had spent money for copies of the field sheets and poorly written interpretation.^P We visited the headquarters of the commission and found they were making excellent use of the soil survey. We were back in the office about 5:30 and I spent the evening going over most of the state memos of the last year or so.

On May 13 we checked out of the hotel for a two-day field trip to Green Lake and on to La Crosse. We talked with staff and discussed with them their several problems, especially in the great sandy area. Much of this had been developed for farming and had failed before I went to Wisconsin in 1928. With SCS help and state assistance much of the sandy land had been reforested and the better soils protected from blowing with windbreaks and strip cropping. Recently large areas had been converted to irrigated vegetables by big operators using large machines on large holdings. Unhappily many strips and windbreaks were taken out.

The morning of May 14 we checked out of the hotel and went to the area office for conferences. We also visited the SCS office at Viroqua. That southwestern part of Wisconsin is strongly dissected and has serious problems of run-off control, flooding, and erosion. Most of it is now protected with watershed projects. The Late Wisconsin glaciers for some reason went around this so-called "driftless area." with population increasing people were then building houses on steep hillsides that I feared would disappear.

In the afternoon we drove back to Madison and the Russells took Mr. and Mrs. Jaedicke and me to dinner. During this dinner as well as at most of the other meals, I realized that essentially all of the conversation was on food. After dinner Russell took us for a trip around the campus of the University. A large number of tall buildings had been constructed since 1960. Some of

May 1969

the students had "way out" dress and manners.

May 15 we had general and specific conferences with the staff except for a brief period that I spent with the soils staff at the University for luncheon and brief visits. Dr. Muckenhirn is now head of the Soils Department. He asserted that he wished then he had followed my advice of several years ago of staying with the Department instead of going into university administration as Assistant Director of the Experiment Station.

That evening I wrote the rough draft of our appraisal report in counsel with Jaedicke.

The next day, May 16, I dictated the report, corrected it and had enough fair copies to discuss it with the staff. It took the form of a memorandum from the administrator to Russell. We pointed out that they had been overly careless with time reporting by specific appropriations and that they needed to make some revisions in their financial plans. On the whole we were very kind to them and they were pleased.

I checked out of the hotel about 4:00 and left about 4:50 with a considerable stop over in Chicago. My plane was down at Friendship Airport about 10:00 p.m.

Also I found at home an important letter from Milton Hebard. He thanked me for the paper I had sent him and indicated that I must have given up the bronze of Joyce. With some help from Mommy, I persuaded myself to order it.

Of course the next two days were spent in the garden.

I returned to the office May 19 to an enormous stack of books and papers. Then a group of SCS award winners were in town for the ceremonies the next day. I didn't attend and got the backlog reasonably well cleaned up. The evening of May 20 we went to a little party at the Custrys's.

The morning of May 21 I attended the meeting of the FAO interagency committee at which the Director General spoke and gave a very interesting

account of his ideas. In the afternoon I had a two-hour session with Harry Trelogan's class in advanced social science research. I had given this lecture on "The two cultures and Reading" several times.

May 22 was a routine day except that I discovered that Roy Simonson had sent out a memo on soil correlation that should have been for my signature, except that he probably knew that I would not have signed it. He interpreted that our most recent amendment on soil correlation was not retroactive about the treatment of soil series established by the principal correlators previous to Soils Memorandum No. 11. The next day we had a staff conference on this subject with Simonson there and with all in agreement except him. Bill Johnson wrote out a statement and cleared it temporarily by telephone with the principal correlators.

The week end of May 24 and 25 I worked in the garden but still had many azaleas yet to prune.

Monday, May 26 I left the office about 11:00 a.m. for Ferris State College where I was to give a lecture to students on the potential arable soils of the world and the critical measures for their development under the auspices of the American Society of Agronomy and financed by an NSF grant. One of the faculty members met me at Grand Rapids, Michigan and drove me to Big Rapids where I was installed in a guest room in the women's dormitory. I was shown around the campus by Dr. Gamble of the biology department and taken to a fancy restaurant for dinner. After dinner I attended an informal session with a dozen or so faculty members. The oldest in service was five years and most of them less. The college insisted on Ph. Ds. Most of these had had no practical experience and came there for want of a better opportunity. Most had had very narrow educational opportunities in college or at home. Most had read no modern classical literature. Obviously they had great trouble in communication with their students.

After breakfast the next morning I gave my lecture three times to regular classes of students, one after another. Several students appeared to be interested but others were not.

After lunch I was driven back to the Grand Rapids airport.

I left about 3:00 p.m. This was not a good experience I suspected that many of the students lacked the money or scholarship records to go to a well-established university and certainly the staff was not able to inspire them.

The plane came into Baltimore about 7:30 and I was home about 8:30 p.m.

On May 23 I had another talk with Byerly and others on African research.

The next day, May 29 I was given a copy of a letter that John Cady had written to Senator Tydings explaining how terribly he had been treated in the Soil Survey! So far as I knew, through no fault of his, Cady had begun to go blind about 2 $\frac{1}{2}$ years before. Dr. Alexander felt that we should insist that he apply for disability retirement. I should have followed his advise. He had a GS grade 14 based mainly on his work in clay mineralogy that required microscopic study. As he grew blind he could not use a microscope. We figured out now he could be employed at a lower grade to write some field handbooks for junior men. Then came this lying, abusive letter.

May 30 was a holiday and I took the leaves out of the gutters which stimulated coughing no end, probably from the oak pollen.

After two more days of gardening I had had nearly enough. My shoulders had been a bit sore since January and the left one became very sore and continued so for some time.

The second of June was routine at the office except that I had word from Hebard that the Joyce bronze was on the way and was due here about the

June 1969

27th of June. Obviously with the postal troubles in Italy it would be delayed.

Tuesday, June 3, brought very heavy mail and our initial conference on planning budget submissals for fiscal year 1970.

June 4 the mail was also very heavy. I met Mommy downtown to transfer 100 shares of Riegel Paper stock to her name alone. Leo Anderson called on his way to Libia. We had quite a talk about his experiences and new ideas for agricultural development. He told me that Oliver had got E. L. Peterson kicked out of the Development and Resources Corporation. Then Lilienthal got rid of Oliver!

Just after Leo left Dean Cowden called. He told me that he had been just walking by and saw my name on the door. Cowden was the last Assistant Secretary appointed. He had taken Baker's old place in charge of SCS, Forest Service, Farmer's Home Administration, and so on. He said something about problems and I explained that I had 100 problems but only one really mattered. Don Williams could not have cared less whether any of our soil surveys got published or not. (This was because he feared I got credit for them.) I explained that we had nearly 400 that were unpublished and in which we and our cooperators had already invested \$200,000 to \$300,000 each. They were waiting for the lack of about \$45,000 to prepare the maps for printing, to edit the explanatory manuscripts, and to pay for the printing. Public benefit would far exceed \$1,000,000,000. I explained how this had come about through enormous increases in field work and with no more staff for the other work.

He said, "You know how I feel about it?" I told him that I did not recall we had discussed it. He explained that no soil survey should be made unless it is printed. Of course that was true. I explained that the work should be in balance. This would mean greatly reducing the field work or

get some extra funds to get rid of the backlog. He said, "We will fix it come budget time." We chatted a while more and he left.

My secretary told me that his secretary had called about ten minutes before he came asking whether I was in my office. So he hadn't been "strolling" along the halls.

June 5 I was still happy over Cowden's visit. I told Lewis Derr and Hockensmith to add this item to our budget request. A few days later it was clear that Mr. Grant had had some suggestions to do this from the Secretary's office. But I'm sure he was glad to.

On Friday I got fairly well caught up for the week.

Saturday, June 7 and Sunday morning the 8th I watered the garden and Sunday afternoon I worked inside while it rained!!

June 9 Paul Carroll returned from Kinshasi and we had talks about his work and his report. Apparently the sandy soils had a lot of carbon in them. He said he had samples coming and we hoped that they were large enough for dating the carbon. *What a good scholar!*

June 10 I worked on correspondence in the afternoon and made a taped interview with Jack Towers on the various problems of soil management including those relating to animal health and urban communities.

On June 11 I worked in the office in the morning and visited the staff at Hyattsville in the afternoon.

June 12 and 13 were routine days except that I sent Ken Grant a long and carefully worked out memorandum explaining the great confusion caused by the old Service Sacred Cow -- "land capability classification." This was only one of many interpretive groupings now. It is only a grouping of soils in accordance with their suitability for field crops. It has no relevance to horticultural crops, forestry, range, or any of our many engineering interpretations. Nor does it account for any of the economic

June 1964

characteristics of land.

Saturday, June 14, I worked in the garden and we had dinner chez Dykes.

The following Sunday I watered the garden in the morning and we had an ^{storm} electrical_A later that gave us an inch of water.

This Bloomsday, June 16, was a usual routine day at the office (what a pity) and so was June 17.

June 18 we finished up the tentative schedule of soil surveys to be published.

June 19 was rainy in the morning. I had a brief conference with a Brazilian soil scientist here for study -- Francesco Palmiere.

Then in the later afternoon I had a conference with Grant and his budget program staff and he told us to go ahead with estimated for cleaning up the backlog of unpublished soil surveys in about five years.

July 20 I had a staff conference on these plans and we went to work developing the budget which turned out to be a whale of a job.

Most of the week end June 21 and 22 was in the garden.

Monday, June 23 we all worked hard on the 1970 budget. I was also acting administrator for that day and the next.

We had recently decided that with the transfer of Puerto Rico from the Ft. Worth center to Upper Darby for servicing that Bartelli would continue to handle soil correlation in Puerto Rico. I was quite disgusted to find that after this agreement, Tinsley, the director at Upper Darby, had written Bartelli that he wanted the boys from Upper Darby to go too! Finally on Thursday morning early I got to talk with Tinsley on the phone and told him that we couldn't afford it.

On June 26 I also had a pleasant conference with Yallon of Israel who took Aubert and me on visits to the kibitzim in 1952.

Friday, June 27, we finally wound up the budget plan and sent it to Grant. I sent letters to all the directors and principal correlators about it and the arrangement for correlation in Puerto Rico, marked "for official use only."

In the late afternoon I saw my physician and he laid out things to be done in the way of tests.

On June 28 we got through the garden work in one day -- a hot one.

Sunday, June 29, I worked inside on books and helped Mommy with my Journal.

June 30 I had the usual work at the office and spent a couple of hours on a paper for the SCS magazine showing what happens to soil and water when a country area is heavily built with roads and houses.

July 1 was a sort of anniversary. The Soil Survey was 70 years old and I had directed it for 35 years. That day we had a meeting of the FAO interagency committee. Someone pointed out the danger of regional meetings where conflicting policies might arise. I pointed out that we had a far more serious uncorrected difficulty. For years the Government of the US had been sending official instructed delegates to FAO, UNESCO, WHO, and WMO with quite conflicting instructions on identical propositions. One of the young men from State challenged this and I agreed to send him the documents -- a report I prepared for a large committee based on several embarrassing conflicts such as the world soil map; the source book on irrigation, drainage, and salinity; and so on. I submitted statements made also by Interior and HEW on similar items. The big trouble was that within State there was a secretariat for a US UNESCO Commission. UNESCO had no clearly defined function and tried to overlap all of the sciences of the other agencies.

In the afternoon I went over for a chat with Assistant Secretary Tom Cowder. Specifically about a new research policy group appointed by the Secretary that omitted the Soil Survey. He asked me to write a memorandum on this to him and he thought he could correct the mistake. So I did.

Thursday, July 3, Dr. Carl Fergusson came to say goodbye for the time. He is off to Morocco for two years. This will make working with AID even more difficult.

I finished up several other chores and went home very tired.

Mommy and I spent July 4 watering the garden and on Saturday, July 5 we worked in the garden in the morning, did a little shopping in the afternoon, and spent the evening chez Johnson.

July 7 I had to write memos on a project on tropical agriculture in the Congo. Also that week I had to make a long comment on an absurd suggestion from UNDP about a proposed school in agriculture at Yangambi. whoever wrote it had no idea whatever of the nature of tropical farming.

Also that week I started and later finished a paper for the soil conservation magazine of the Service on the effects of urbanization on soil and water. I decided to do it jointly with Hal Enderlin. He and Chet Francis turned in a contribution. At first I had to translate it into English. With this done, I think we had finally a pretty good paper.

At the end of the week I had a talk with Hollis Williams. He was again very unhappy and bitter.

This had been a week of many papers including performance ratings. I recommended outstanding for Koechly, Smith, and Sawyer.

July 14 I had a long conference with Norman Berg. I pointed out that something drastic needed to be done to improve the selection of people for key positions. Don Williams had made so many mistakes with his "personal" hunches. I outlined the scheme that we had in the old Bureau of Plant Industry and improvements made by NIH.

That week I did a bit more on a potential UN paper -- Soil science and human welfare. I also read proof for a paper on Potential arable soils of the world and critical measures for their use.

That was a very hot week. Foolishly, Nixon had declared Monday, July 21 a national holiday to commemorate the scheduled landing of two men on the moon on Sunday evening, July 20.

Despite the heat I still got lots of mail. Saturday, July 19, I worked most of the day in the garden. But not all of it -- the bronze of Joyce finally came from Milton Hebard. Unfortunately both of the bolts holding the bronze to its marble base were broken just inside the bronze. It was a real job to get the stubs out and replace them temporarily.

Sunday, July 20, I worked a bit in the garden and a bit with the books. For dinner in the evening, to celebrate J. C. Dykes' birthday, we had Mr. and Mrs. Dykes, Mr. and Mrs. Hockensmith, Mrs. Colton, and Carol Johnson. There was lots of good talk.

Later that evening we saw the men walk out on the surface of the moon. As most had expected, the surface was mainly fine dust.

Monday, July 21, I worked in the garden for a while and did some other chores. Mommy and I went shopping for a lamp for the Joyce bronze but did not get one until later.

I spent most of the rest of the week in conferences on soil survey interpretations. We had here the four correlators for interpretation from the regional centers and several of our Washington staff.

That week we had the good news that the way was clear to get GS-14 grades for Klaus W. Flack, Director of our Riverside laboratory, and Robert B. Grossman, Director of our Lincoln laboratory. Both had been doing extremely well.

Most of July 26 and 27 I spent in the garden.

Monday, July 23, I had a very nice conference with Mr. Chang from Malaysia who had been studying at Cornell with Arnold, Cline, and Drosdoff.

I also went over a good deal of the revised guide^e to authors of soil survey manuscripts. There were quite a few errors to be check^{ed}. It was finished the next day and I returned it to Byron Barnes.

On Thursday, July 31, I discussed at length with Ken Grant the very bad writing of most of our field soil scientists and proposed a letter to each state conservationist about it. This I prepared the following week after a conference with my local staff.

Friday afternoon I attended a conference at the Office of Science and Technology on the effects of defoliation on soils in Vietnam. Obviously those people had been given an article by a woman on Laterite published two years previously in "Scientific American." Nearly everything in the article was untrue. They had many questions and I went over all the principles concerning the genesis of laterite and its hardening. I explained that defoliation would not be significant in hardening laterite in Vietnam. Repeated defoliation could cause serious erosion on sloping soils and could cause invasions of bamboo in the fallows of shifting cultivation. I did point out also that laterite had great military significance since the North Vietnamese could make caves under it for concealment.

Saturday, August 2, was very hot and I got my garden work done in that one day.

Sunday I made a permanent repair of the bolts that held the Joyce bronze to its marble base.

The Dykes called for a chat.

Monday, August 4, I finished ~~m~~emos to Ken Grant containing suggestions that he requested for his address in September to the State conservationists.

Tuesday morning Menzies and Park called to show us the latest photographs of the rocks and dust samples collected on the moon. Later they furnished

August 1969

chemical analyses, which were almost exactly what we had expected -- basaltic material, a bit high in titanium.

The rest of Tuesday was very busy in getting all of our data and final explanations for a program to bring Soil Survey publications in balance with field work by 1977.

On Wednesday, August 6, I had a brief telephone conversation about this with Dr. Cowden.

The next day he asked for a complete list of all the 316 soil surveys lying on the shelf waiting their turn for publication.

Apparently at the hearing attended by Berg and Campbell, Paarlberg read a list that Cowden gave him of delays in publication of soil surveys in Michigan. I called Cowden about this because it sounded a bit fishy. So he sent it to me. (Copy attached) Obviously he had had it a long time.

We worked as best we could to explain this. Some of the surveys were started by the State without work plans for publication, and so on.

At the end of the week on Friday came a direct confrontation between Smith and Ruhe. Ruhe was using carbon dating to show age of soils and loess deposits. He had been giving young dates where the mantle was thin and the carbon obviously was partly from recent plants. Yet he refused to take this into account. I am afraid he is beginning to lose his balance.

Gardening on Saturday, August 9, and inside Sunday, August 10.

On Sunday I measured 2.65 inches from a cloudburst Saturday night.

Monday, August 11, we worked very hard on the lists of surveys -- both the general list and the one for Michigan. I prepared a full statement on the Michigan surveys for Dr. Cowden but Mr. Campbell held it a while.

(Copies attached)

Tuesday, August 12, both Berg and Grant were away when they should

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Washington, D. C. 20250

SUBJECT: Soil surveys in Michigan as listed in
Mr. Wittwer's memo of 7 March 1969

DATE: August 12, 1969

TO: T. K. Cowden, Assistant Secretary

The Soil Survey has *the best*
~~We have recalled the best~~ we could from the records what happened
with the late soil surveys listed. We regretted that many of
these had troubles but still if they had been published earlier,
others in Michigan or other states would not have been published.

Details are attached.

Charles E. Kellogg

Charles E. Kellogg
Deputy Administrator
for Soil Survey

Attachment

*original not
sent!!!*

Comments on both surveys is attached

During this time the total funds in SCS for fieldwork increased roughly $3\frac{1}{2}$ times, and special funds, mainly for mapping, from other Federal, state, and local agencies, also increased. Yet regular budgeted funds in SCS for the cartographic and editorial work, and for printing, were only enough to take care of about 28 to 32 annually. Some years, however, adjustments in funds near the end of the fiscal year made it possible to handle a few more. To date, we have accumulated 316 ready for processing for publication.

Now to get to those in Michigan. The earlier ones on your list got caught in World War II. Others were delayed by Michigan State Agricultural Experiment Station staff and our staff failing to agree on acceptable soil correlations. But, nationally, other surveys took their places on the schedule for publication.

Midland and Newaygo Counties:

We have no viable records at all, but certainly they would have been caught in the squeeze of World War II.

Lenawee County:

Lenawee County got caught in the war and field mapping was suspended in 1942. The first field sheets were completed in 1946 and a draft of the manuscript for publication in 1948. It turned out there were deficiencies in both. Some revision was made in the field mapping and the correlation which was finally approved in 1957.

Montcalm County:

The fieldwork was completed in 1946, but it was not in shape for publication. The Michigan State Agricultural Experiment Station undertook to transfer the data from the old field sheets to ratioed reductions of the photographs made in the USDA. As we recall that work was finished at East Lansing in 1950 or 1951. For some reason that I cannot recall specifically, the Michigan State staff and our staff spent a good deal of time on the correlation and a finished field correlation was not available until 1954, and a final correlation in 1956. (I discovered in April 1968 that despite all of this a serious error in the correlation had been made.)

Sanilac County:

We have a record that fieldwork started in 1940 and was suspended in 1944. Fieldwork was resumed in 1950 and the field mapping was completed in 1953. Here again, there was a good deal of delay over the correlation, including an enormous amount of correspondence with the Michigan State staff during 1954, 1955, and 1956.

the first time, and special funds, mainly for mapping, from other states, and local agencies, also increased. Yet regular funds for the one agency and additional work, and some other, were only enough to take care of about 10 to 15. Some years, however, circumstances in funds were the and that year made it possible to handle a few more. No more, and the 1945-46 year for processing for publication.

in those in Michigan. The section ones on your list for World War II. Others were delayed by Michigan State. All Department Station staff and our staff failed to agree on self-correlation. But, ultimately, other surveys places on the schedule for publication.

and Negro Counties

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was County not enough in the war and field mapping was suspended. The first field sheets were completed in 1946 and a draft manuscript for publication in 1947. I turned out the 1946 sheets in 1947. Some revision was made in the field mapping correlation which was finally approved in 1947.

in County

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in County

work that fieldwork started in 1946 and was suspended in 1947. Work was resumed in 1948 and the field mapping was completed in 1949. Again, there was a good deal of delay over the correlation. An enormous amount of correspondence with the Michigan State staff and our staff was involved in the correlation.

Ionia County:

This work was started about 1952. Part of the time there were few people in the soil survey party. The original party leader was transferred out and fieldwork did not get completed until 1959. Here again, there was a great deal of correspondence over the correlation with the Michigan State staff and the final correlation was not completed until 1965. (Here too, during my visit in April 1968, despite all of this correspondence, there were two or three major errors in correlation that I deeply regret.)

Arenac County:

A work plan was approved in 1951 and the mapping was started. An amendment in 1954 included a plan for publication of this soil survey. The field correlation was made in 1957 and map compilation began in 1958. Again, the staff at Michigan State and our staff raised several questions about correlation which held up the work and a revised field correlation was made in 1962. This also was not agreeable to all concerned and a final correlation was not arrived at until 1964. Not until after that could the maps and text be prepared and sent to the Government Printing Office.

Grand Traverse County:

Mapping was begun in 1941. Of course, also this county got caught in the war and mapping was reported completed in 1955, but without an adequate descriptive legend, so that had to be prepared and, as with some of the others, the correlation process took considerable time and correspondence.

Muskegon County:

This survey began in 1939 as a soil and erosion survey of the SCS of individual farms. Later it was agreed that this work would be continued cooperatively between the Soil Conservation Service and the BAE as a combined soil and economic survey. Apparently, the southern half had fieldwork fairly well finished by 1940 and the northern half by 1941. Then in 1955 a suggestion was made that perhaps this work could be revised for publication and additional field studies were made. A proposed work plan for a published soil survey was not approved until 1963 and the final correlation was accomplished three years later in 1966 along with a manuscript for the text.

... was started about 1950. Part of the time there were few ... the soil survey party. The soil survey party leader was ... out and fieldwork did not get completed until 1955. ... there was a great deal of correspondence over the ... with the Michigan State staff and the final correlation ... completed until 1955. (Later too, during my visit in ... 58, despite all of this correspondence, there were no ... errors in correlation that I deeply regret.)

County:

... plan was approved in 1951 and the mapping was started. In ... included a plan for publication of this soil ... The final correlation was made in 1951 and map completion ... 1958. Again, the staff at Michigan State and our staff ... several questions about correlation which held up the work ... revised field correlation was made in 1955. This also was not ... to all concerned and a final correlation was not arrived ... 1964. Not until after that could the maps and text be ... and sent to the Government Printing Office.

Traverse County:

... was begun in 1951. Of course, also this county got caught ... the war and mapping was reported completed in 1957, but without ... adequate description legend, so that had to be prepared and, as ... some of the others, the correlation process took considerable ...

County:

... survey began in 1930 as a soil and erosion survey of the ... individual farms. Later it was agreed that this work would be ... cooperatively between the Soil Conservation Service and ... a combined soil and economic survey. Apparently, the ... had fieldwork largely finished by 1940 and the ... by 1951. Then in 1952 a suggestion was made that ... this work could be revised for publication and additional ... were made. A proposed work plan for a published soil ... was not approved until 1955 and the final correlation was ... three years later in 1958 along with a manual map for

Township Surveys:

These five township surveys were managed by Michigan State University under a project proposed by Stanley Andrews. So far as we know, and the records are not entirely clear, apparently the Soil Conservation Service took little part with the mapping or correlation of these small surveys. They were published as bulletins by the Michigan State Agricultural Experiment Station.

Osceola County:

Osceola County was initiated by Michigan State University and the State Department of Conservation in 1952. The field mapping was completed in 1959, but without an adequate descriptive legend which made correlation difficult. The field correlation was made in 1960, but Michigan State staff waited to have more information and a final correlation was jointly approved in 1966.

Most of the other Michigan surveys are moving along normally, but I do need to comment on two others, as follows:

Marquette County:

During the 40s and 50s, and our records are incomplete, Professor Veatch, Mr. Schneider, and perhaps others at Michigan State made what were called "land type" surveys for the use of the State Department of Conservation and at least partly or mainly with funds supplied by that Department.

While Professor Schoenmann was still active at Michigan, he asked us to examine these surveys in the field and in the office to see whether or not they could be published as soil surveys. I remember having a 2-day conference, after field examination by some of our soil correlators, at Michigan State with Roy Schoenmann and Professor Veatch. As you may know, Professor Veatch did not always keep field notes. There were so many differences in mapping units having like symbols that there seemed no way short of remapping to name and to describe these units as required in a published soil survey. Further, there were enormous variations in the base maps used in the soil mapping and the aerial photographs proposed for use in publishing the soil survey. After considerable study and effort, it was finally decided by all concerned that the cost of redoing the work and of publication would not justify the funds required. Not all of those land-type surveys appear to be included in your list.

...a township survey was managed by Michigan State University...
...proposed by Stanley Johnson. So far as we know, and...
...are not entirely clear, especially the Soil Conservation...
...little part with the mapping or correlation of the...
...They were published as bulletins by the Michigan...
...Michigan Department of Conservation.

... Co

...County was initiated by Michigan State University and the...
...Department of Conservation in 1932. The first mapping was...
...in 1939, but without an adequate descriptive index which...
...correlation difficult. The first correlation was made in 1941...
...Michigan State still waited to have more information and a...
...correlation was jointly approved in 1946.

...of the other Michigan surveys are moving along normally, but I...
...to comment on two others, as follows:

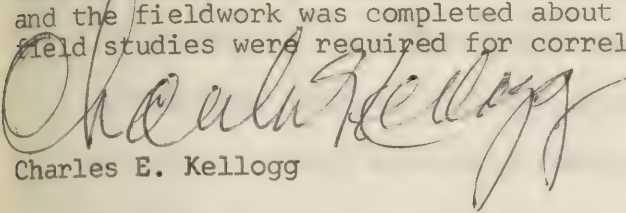
...

...the 40s and 50s, and one records are incomplete, Professor...
...Mr. Schneider, and perhaps others at Michigan State made...
...were called "Land type" surveys for the use of the State...
...Department of Conservation and as issued partly or mainly with funds...
...by that Department.

...Professor Johnson was still active at Michigan, he asked...
...to examine these surveys in the field and in the office to see...
...whether or not they could be published as soil surveys. I remember...
...ing a 2-day conference, after field examination by some of our...
...correlators, at Michigan State with Roy Johnson and Professor...
...As you may know, Professor Vasek did not always keep their...
...there were so many differences in mapping units having to do...
...with them seemed no way short of reworking the whole thing...
...that those and to be reworked in a published soil survey. Further...
...ere enormous variations in the base maps used in the soil...
...the aerial photographs proposed for use in planning...
...survey. After considerable study and effort, it was finally...
...by all concerned that the cost of redoing the work and of...
...would not justify the funds required. Not all of those...
...surveys appear to be included in your list.

Charlevoix County:

The first survey attempted by the Land Economic Survey of the Michigan State Department of Conservation was in Charlevoix County in 1922. It was agreed that this should not be published. Late in 1959, a work plan was developed for a published soil survey and the fieldwork was completed about 1962 except that some additional field studies were required for correlation in 1967.



Charles E. Kellogg

...by the ... of the
Department of Conservation was the ...
It was agreed that this should be ...
... a work plan was developed for a ...
... was completed about ...
... correlation in 1957.

[Handwritten signature]
...

August 1969

-1122-

have been here. The Service got word that all USIA would be getting a large cut directly from Nixon through the Bureau of the Budget.

Actually I was not greatly surprised. As I had pointed out in several speeches nearly all the leadership of the USIA and of the Land Grant Colleges had ignored the fact that farming now employs only about 1/6 to 1/7 of the people working full time in agriculture. Thus the USDA had created an image of itself as being primarily a welfare agency for farmers about whom Nixon couldn't care less.

Wednesday, August 13, I roughed out some notes for a bulletin on Soil survey and town- and country-planning and also on Soil scientists keeping notes on long excursions.

Thursday, August 14, I had an early conference with Grant and he felt our budget situation would be desperate and probably we would not get our soil survey program. He didn't like the memo I had prepared for Cowden because it might make it appear the the Service had mismanaged the Soil Survey program. I pointed out to him that it would be impossible to conceal the fact that Don Williams had mismanaged it for 15 years. Money had been added to field work way beyond the resources for preparing surveys for publication and the costs for printing. We had had funds to send 30 each year to the printer. For a few years we had been able to do more with "year-end" funds. Total funds available for field mapping in the Service had increased from about \$5,725,000 in 1953 to a bit over \$20,000,000 in 1969. Each year I had called William's attention to this enormous imbalance, without results. (The reason was his enormous jealousy of the Soil Survey.) So I told Grant, "Here we are with 316 soil surveys in which we and our cooperators have hundreds of millions of dollars invested, yet they are lying on the shelf unavailable to use! The projected benefits run to several billions.

August 14

I went back and revised the letter to Cowden about the Michigan surveys to omit the first page or so. (Copy attached) But I did submit for Grant to sign a list of the 316 to which our budget notes already referred. These were delivered the following Tuesday, August 19. (Attached)

August 15 we went over the budget problem some more for the Service as a whole. If there would be no relief from that budget nearly all construction would stop. The main reason was that the limitation was on "expenditures" not simply new obligational authority. Thus in Watersheds all contracting would have to be stopped.

Neither Berg nor Grant much wanted to send the list of surveys to Dr. Cowden but I didn't see how they could help it. And the facts could speak for themselves.

Friday Mommy cleared up a bill from customs. It was \$6 for the bolts and marble for the Joyce bronze.

What a week!

August 16 was spent mostly in the garden and August 17 I read and worked on this c.v.

The morning of August 18 I visited the National Agricultural Library in the new building opposite the Plant Industry Station. The building was nice but otherwise the visit was discouraging. The organization of books and cards was confused, unfinished. The staff morale was low. The director, John Sherrod, apparently had little interest in the service of the library.

Mommy came for me and I went home to lunch and then to Hyattsville for the scheduling meeting and other conferences.

Mr. Robert Birch of the library called between 5:00 and 7:00 for an interesting chat.

B 11230

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

RE: **SOIL - Status of Soil Survey Backlog**

DATE:

TO: **Thomas H. Brown, Assistant Secretary**

According to your recent telephone conversation with Dr. Kallgren, we have prepared the attached list showing the status of 316 soil surveys awaiting publication. This list shows the date each soil survey was started and the date field mapping was completed.

In addition to the 316 soil surveys, this list includes a few more for which field mapping is essentially completed but that require additional field studies before they can be made ready and processed for publication.

Administrator

bcc:

Mr. Floyd Campbell

SCS:JWKingsbury:bws 8/14/69

1123

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SCS: 1113 - Status of Soil Survey Backlog

DATE:

TO: Thomas K. Cowden, Assistant Secretary

According to your recent telephone conversation with Mr. Kellogg, we have prepared the attached list showing the status of 316 soil surveys awaiting publication. This list shows the date each soil survey was started and the date field mapping was completed.

In addition to the 316 soil surveys, this list includes a few more for which field mapping is essentially completed but that require additional field studies before they can be made ready and processed for publication.

Administrative

hec:
Mr. Floyd Campbell

SCS:JMKingsbury:hec 9/14/69



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| | SS Start | End 11/21/68 | | SS Start | End 11/21/68 |
| Alfred Co. | 3/63 | 12/66 | Alfred Co. | 3/63 | 12/66 |
| Albion Co. | 7/54 | 1/63 | Albion Co. | 7/54 | 1/63 |
| Albion Co. | 4/63 | 2/66 | Albion Co. | 4/63 | 2/66 |
| Albion Co. | 11/66 | 11/68 | Albion Co. | 11/66 | 11/68 |
| Albion Co. | 5/61 | 9/66 | Albion Co. | 5/61 | 9/66 |
| Albion Co. | 6/63 | 8/64 | Albion Co. | 6/63 | 8/64 |
| Albion Co. | 7/66 | 9/68 | Albion Co. | 7/66 | 9/68 |
| Albion Co. | 7/59 | 8/64 | Albion Co. | 7/59 | 8/64 |
| Albion Co. | 8/62 | 8/66 | Albion Co. | 8/62 | 8/66 |
| Albion Co. | 1/62 | 7/67 | Albion Co. | 1/62 | 7/67 |
| Albion Co. | 1/54 | 12/68 | Albion Co. | 1/54 | 12/68 |
| Albion Co. | 4/63 | 12/66 | Albion Co. | 4/63 | 12/66 |
| Albion Co. | 6/60 | 6/66 | Albion Co. | 6/60 | 6/66 |
| Albion Co. | 1/58 | 12/60 | Albion Co. | 1/58 | 12/60 |
| Albion Co. | 6/56 | 12/66 | Albion Co. | 6/56 | 12/66 |
| Albion Co. | 3/60 | 6/67 | Albion Co. | 3/60 | 6/67 |
| Albion Co. | 1/60 | 6/66 | Albion Co. | 1/60 | 6/66 |
| Albion Co. | 1/60 | 5/65 | Albion Co. | 1/60 | 5/65 |
| Albion Co. | 6/64 | 6/68 | Albion Co. | 6/64 | 6/68 |
| Albion Co. | 7/58 | 10/64 | Albion Co. | 7/58 | 10/64 |
| Albion Co. | 5/62 | 1/68 | Albion Co. | 5/62 | 1/68 |
| Albion Co. | 7/51 | 8/62 | Albion Co. | 7/51 | 8/62 |
| Albion Co. | 4/60 | 12/65 | Albion Co. | 4/60 | 12/65 |
| Albion Co. | 5/59 | 9/65 | Albion Co. | 5/59 | 9/65 |
| Albion Co. | 8/56 | 12/65 | Albion Co. | 8/56 | 12/65 |
| Albion Co. | 7/62 | 12/68 | Albion Co. | 7/62 | 12/68 |
| Albion Co. | 8/59 | 6/64 | Albion Co. | 8/59 | 6/64 |
| Albion Co. | 9/56 | 9/67 | Albion Co. | 9/56 | 9/67 |
| Albion Co. | 4/59 | 3/67 | Albion Co. | 4/59 | 3/67 |
| Albion Co. | 8/57 | 2/65 | Albion Co. | 8/57 | 2/65 |
| Albion Co. | 6/62 | 9/64 | Albion Co. | 6/62 | 9/64 |
| Albion Co. | 8/59 | 10/64 | Albion Co. | 8/59 | 10/64 |
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| Albion Co. | 4/55 | 4/66 | Albion Co. | 4/55 | 4/66 |
| Albion Co. | 1/58 | 1/67 | Albion Co. | 1/58 | 1/67 |
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| Albion Co. | 7/57 | 7/67 | Albion Co. | 7/57 | 7/67 |
| Albion Co. | 7/62 | 7/65 | Albion Co. | 7/62 | 7/65 |
| Albion Co. | 7/59 | 7/66 | Albion Co. | 7/59 | 7/66 |
| Albion Co. | 7/62 | 7/66 | Albion Co. | 7/62 | 7/66 |
| Albion Co. | 7/59 | 7/65 | Albion Co. | 7/59 | 7/65 |
| Albion Co. | 7/58 | 7/63 | Albion Co. | 7/58 | 7/63 |
| Albion Co. | 9/62 | 1/66 | Albion Co. | 9/62 | 1/66 |
| Albion Co. | 10/55 | 12/68 | Albion Co. | 10/55 | 12/68 |
| Albion Co. | 1/63 | 8/67 | Albion Co. | 1/63 | 8/67 |
| Albion Co. | 12/55 | 1/67 | Albion Co. | 12/55 | 1/67 |
| Albion Co. | 11/59 | 4/68 | Albion Co. | 11/59 | 4/68 |
| Albion Co. | 9/56 | 12/68 | Albion Co. | 9/56 | 12/68 |
| Albion Co. | 3/57 | 11/66 | Albion Co. | 3/57 | 11/66 |
| Albion Co. | 3/57 | 7/67 | Albion Co. | 3/57 | 7/67 |
| Albion Co. | 9/61 | 12/66 | Albion Co. | 9/61 | 12/66 |
| Albion Co. | 5/60 | 5/63 | Albion Co. | 5/60 | 5/63 |
| Albion Co. | 1/59 | 7/64 | Albion Co. | 1/59 | 7/64 |
| Albion Co. | 9/59 | 9/64 | Albion Co. | 9/59 | 9/64 |
| Albion Co. | 4/58 | 10/68 | Albion Co. | 4/58 | 10/68 |
| Albion Co. | 7/61 | 9/68 | Albion Co. | 7/61 | 9/68 |
| Albion Co. | 7/58 | 9/66 | Albion Co. | 7/58 | 9/66 |
| Albion Co. | 2/63 | 9/67 | Albion Co. | 2/63 | 9/67 |
| Albion Co. | 4/58 | 11/66 | Albion Co. | 4/58 | 11/66 |
| Albion Co. | 5/59 | 8/68 | Albion Co. | 5/59 | 8/68 |
| Albion Co. | 8/59 | 9/66 | Albion Co. | 8/59 | 9/66 |
| Albion Co. | 5/64 | 10/67 | Albion Co. | 5/64 | 10/67 |
| Albion Co. | 8/62 | 7/66 | Albion Co. | 8/62 | 7/66 |
| Albion Co. | 4/58 | 8/68 | Albion Co. | 4/58 | 8/68 |

| | <u>SS</u> <u>Start.</u> | <u>Map.</u> <u>Comp.</u> |
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| slana | | |
| achita Parish | 3/64 | 6/68 |
| . James-St. John | | |
| Parish | 3/64 | 6/68 |
| angeline Parish | 3/62 | 2/69 |
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| umberland Co. | 12/57 | 11/68 |
| merset Co., S.part | 12/57 | 10/66 |
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| egany Co. | /60 | /66 |
| ne Arundel Co. | /62 | /67 |
| lvert Co. | /61 | /65 |
| ecil Co. | /61 | /66 |
| arles Co. | /62 | /69 |
| arrett Co. | /62 | /68 |
| orcester Co. | /60 | /64 |
| | | |
| igan | | |
| arlevoix Co. | 4/59 | 11/62 |
| met Co. | 12/62 | 11/66 |
| nesee Co. | 8/62 | 11/66 |
| adwin Co. | 5/55 | 11/63 |
| peer Co. | 5/55 | 11/62 |
| elanau Co. | 8/58 | 11/61 |
| vingston Co. | 3/63 | 11/64 |
| comb Co. | 4/64 | 11/66 |
| tawa Co. | 6/58 | 11/62 |
| awassee Co. | 2/58 | 11/63 |
| . Clair Co. | 5/65 | 11/66 |
| elta | 4/58 | 9/67 |
| | | |
| esota | | |
| nton Co. | 5/61 | 6/68 |
| uglas Co. | 7/63 | 9/69 |
| nnepin Co. | 5/66 | 9/68 |
| bles Co. | 8/56 | 10/68 |
| orman Co. | 5/64 | 10/68 |
| pe Co. | 5/61 | 5/67 |
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| eele Co. | 6/62 | 6/65 |
| evens Co. | 7/58 | 10/63 |
| ift Co. | 6/58 | 7/65 |
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| corn Co. | 5/59 | 6/66 |
| ickasaw Co. | 5/61 | 1/69 |
| orge Co. | 7/60 | 2/67 |
| arrison Co. | 3/57 | 4/69 |
| ear Co. | 7/60 | 7/68 |
| se Co. | 6/60 | 1/67 |
| arshall Co. | 3/59 | 2/68 |
| ittibeha Co. | 1/59 | 10/67 |
| Co. | 2/58 | 9/68 |
| Co. | 3/57 | 4/69 |

Missouri

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| Caldwell Co. | <u>7/64</u> | <u>5/66</u> |
| Pemiscot Co. | <u>5/15/63</u> | <u>6/7/65</u> |
| Scotland Co. | <u>7/65</u> | <u>9/67</u> |

Montana

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| Blackfeet Reser.- | | |
| Cut Bank A. | 6/57 | 11/68 |
| Bridger A. | <u>4/65</u> | <u>7/69</u> |
| Philipsburg-Drummond A. | <u>9/54</u> | <u>9/64</u> |
| Powder River A. | <u>4/54</u> | <u>7/64</u> |
| St. Regis-Nine Mile A. | <u>6/61</u> | <u>7/69</u> |
| Yellowstone Co. | <u>8/1/51</u> | <u>9/63</u> |

Nebraska

| | | |
|----------------|--------------|--------------|
| Boone Co. | <u>3/50</u> | <u>7/65</u> |
| Buffalo Co. | <u>3/57</u> | <u>7/67</u> |
| Harlan Co. | <u>9/40</u> | <u>12/66</u> |
| Howard Co. | <u>11/61</u> | <u>11/66</u> |
| Jefferson Co. | <u>7/63</u> | <u>2/65</u> |
| Logan Co. | <u>7/58</u> | <u>7/68</u> |
| Pawnee Co. | <u>5/58</u> | <u>9/68</u> |
| Phelps Co. | <u>6/58</u> | <u>9/68</u> |
| Polk Co. | <u>7/61</u> | <u>12/65</u> |
| Richardson Co. | <u>5/61</u> | <u>11/65</u> |
| Seward Co. | <u>7/60</u> | <u>8/67</u> |
| Thurston Co. | <u>8/57</u> | <u>5/65</u> |
| Webster Co. | <u>12/56</u> | <u>2/66</u> |

Nevada

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| Carson Valley A. | <u>8/58</u> | <u>11/59</u> |
| Diamond Valley | <u>6/64</u> | <u>3/69</u> |
| Fallon-Fernley | <u>12/54</u> | <u>7/68</u> |
| Meadow Valley | <u>9/62</u> | <u>8/69</u> |
| Surprise Valley-Home Camp A. | <u>11/62</u> | <u>8/67</u> |
| Tuscarora Mt. | <u>11/61</u> | <u>9/65</u> |
| Virgin River | <u>1/57</u> | <u>3/64</u> |

New Hampshire

Strafford Co. 5/56 10/67

New Jersey

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| Burlington Co. | 7/63 | 6/66 |
| Hunterdon Co. | 1/64 | 12/67 |
| Mercer Co. | 5/62 | 11/66 |
| Morris Co. | 4/64 | 1/68 |
| Somerset Co. | 7/62 | 6/68 |
| Sussex Co. | 11/61 | 9/68 |

New Mexico

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| East Valencia Co. | 9/60 | 3/69 |
| Harding Co. | <u>7/57</u> | <u>3/63</u> |
| Hidalgo Co. | <u>6/57</u> | <u>9/65</u> |
| Lea Co. | <u>7/56</u> | 12/65 |
| Luna Co. | <u>11/57</u> | <u>7/66</u> |
| Mescalero-Apache | <u>10/62</u> | 12/65 |
| Santa Fe Co. | <u>9/60</u> | <u>5/68</u> |
| Tucumcari A. | <u>5/61</u> | 12/66 |

New York

| | | |
|--------------|-------------|--------------|
| Chemung Co. | 9/56 | 6/68 |
| Herkimer Co. | <u>9/60</u> | <u>8/68</u> |
| Monroe Co. | 7/55 | 12/66 |
| Niagara Co. | <u>6/55</u> | <u>12/67</u> |
| Seneca Co. | <u>5/41</u> | <u>10/65</u> |
| Suffolk Co. | <u>4/65</u> | <u>6/69</u> |
| Wyoming | <u>9/59</u> | <u>11/68</u> |

North Carolina

| | | |
|------------------|--------------|--------------|
| Alleghany Co. | 3/62 | 11/66 |
| Catawba Co. | <u>11/62</u> | <u>7/68</u> |
| Forsyth Co. | <u>5/62</u> | <u>5/69</u> |
| Pitt Co. | <u>11/63</u> | <u>12/67</u> |
| Transylvania Co. | <u>1/62</u> | <u>6/67</u> |
| Wayne Co. | <u>3/62</u> | <u>10/67</u> |

North Dakota

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|------------------------|--------------|--------------|
| Bowman Co. | <u>5/62</u> | <u>10/67</u> |
| Burleigh Co. | <u>5/56</u> | <u>10/64</u> |
| Eddy Co. | <u>5/61</u> | <u>9/69</u> |
| LeMoure-James River A. | <u>6/59</u> | <u>7/61</u> |
| Richland Co. | <u>5/62</u> | <u>10/68</u> |
| Walsh Co. | <u>10/53</u> | <u>9/64</u> |
| Ward Co. | <u>6/56</u> | <u>10/64</u> |

| | SS Start. | Map. Comm. | | SS Start. | Map. Comm. |
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| <u>io</u> | | | <u>Texas</u> | | |
| Ashtabula Co. | 11/53 | 12/54 | Chambers Co. | 8/57 | 9/63 |
| Champaign Co. | 9/57 | 7/62 | Andrews Co. | 1/66 | 12/63 |
| Clermont Co. | 9/64 | 5/69 | Cameron Co. | 12/57 | 12/63 |
| Erie Co. | 1/63 | 1/65 | Castro Co. | 12/57 | 11/63 |
| Fayette Co. | 7/55 | 4/62 | Coke Co. | 11/63 | 9/67 |
| | | | Coleman Co. | 4/63 | 8/66 |
| Hancock Co. | 5/59 | 7/64 | Collingsworth Co. | 12/58 | 12/63 |
| Henry Co. | 9/65 | 9/67 | Cottle Co. | 3/57 | 10/66 |
| Mahoning Co. | 9/58 | 7/64 | Dallam Co. | 8/59 | 12/62 |
| Monroe Co. | 8/61 | 6/65 | El Paso Co. | 12/58 | 7/66 |
| Montgomery Co. | 7/62 | 4/67 | Erath Co. | 6/57 | 12/60 |
| Putnam Co. | 4/64 | 9/68 | Garza Co. | 10/62 | 9/64 |
| Stark Co. | 6/62 | 9/65 | Gillespie Co. | 12/58 | 1/69 |
| Summit Co. | 8/64 | 9/67 | Hale Co. | 12/58 | 12/67 |
| Union Co. | 3/63 | 9/69 | Hardeman Co. | 11/62 | 4/64 |
| Van Wert Co. | 8/55 | 4/64 | Hemphill Co. | 5/58 | 9/60 |
| Warren Co. | 7/57 | 8/63 | Jones Co. | 8/56 | 12/64 |
| | | | Kent Co. | 6/57 | 8/67 |
| <u>Lahoma</u> | | | Martin Co. | 7/57 | 7/65 |
| Alfalfa Co. | 12/57 | 8/69 | McCulloch Co. | 12/63 | 10/66 |
| Caddo Co. | 6/57 | 3/66 | Midland Co. | 12/62 | 6/65 |
| Coal Co. | 2/62 | 3/68 | Montgomery Co. | 9/59 | 10/65 |
| Craig Co. | 12/59 | 3/67 | Moore Co. | 12/57 | 12/63 |
| Jefferson Co. | 1/57 | 2/66 | Navarro Co. | 10/60 | 7/67 |
| McCurtain Co. | 1/57 | 9/68 | Ochiltree Co. | 12/57 | 6/64 |
| Pittsburg Co. | 4/56 | 13/65 | Scurry Co. | 12/58 | 7/64 |
| Pontotoc Co. | 1/58 | 3/66 | Sherman Co. | 7/66 | 10/68 |
| Willman Co. | 11/61 | 2/68 | Starr Co. | 12/59 | 6/64 |
| | | | Swisher Co. | 4/59 | 12/68 |
| <u>agon</u> | | | Terrell Co. | 12/59 | 2/64 |
| Alsea A. | 7/58 | 6/61 | Travis Co. | 1/59 | 12/67 |
| Marion Co. | 9/57 | 9/65 | Uvalde Co. | 12/57 | 6/68 |
| South Umpqua A. | 8/57 | 6/63 | Wharton Co. | 7/60 | 7/67 |
| Yamhill A. | 7/53 | 12/65 | Wheeler Co. | 4/58 | 9/68 |
| | | | | | |
| <u>nnsylvania</u> | | | <u>Utah</u> | | |
| Dauphin Co. | 9/52 | 10/65 | Cache A. | 6/61 | 9/64 |
| Fayette Co. | 12/55 | 1/67 | Central Utah A. | 5/62 | 10/65 |
| Susquehanna Co. | 7/58 | 10/65 | East Box Elder | 6/62 | 8/69 |
| | | | Salt Lake Co. | 5/63 | 9/66 |
| <u>erto Rico</u> | | | Wasatch | 6/57 | 10/62 |
| Humacao A. | 3/62 | 2/69 | | | |
| Mayaguez A. | 8/61 | 8/66 | <u>Vermont</u> | | |
| | | | Addison Co. | 9/58 | 11/64 |
| <u>uth Carolina</u> | | | Chittenden Co. | 7/59 | 11/67 |
| Charleston Co. | 11/62 | 7/66 | | | |
| Florence-Sumter Cos. | 1/59 | 9/68 | <u>Virginia</u> | | |
| Greenville Co. | 7/66 | 7/69 | Charlotte Co. | 8/63 | 4/69 |
| Lancaster Co. | 5/59 | 3/67 | Madison Co. | 5/60 | 4/67 |
| Pickens Co. | 5/63 | 2/67 | Orange Co. | 5/59 | 12/64 |
| | | | Strafford-King Cos. | 1/63 | 3/69 |
| <u>uth Dakota</u> | | | | | |
| Butte Co. | 7/58 | 6/69 | <u>Virgin Islands</u> | | |
| Davison Co. | 9/59 | 8/64 | Virgin Islands | 1/64 | 3/65 |
| Dewey Co. | 7/65 | 7/71 | | | |
| Lake Co. | 5/61 | 11/65 | <u>Washington</u> | | |
| Mellette Co. | 7/55 | 7/65 | Benton Co. A. | 12/54 | 7/63 |
| Sully Co. | 6/57 | 7/66 | Chelan Co. | 7/47 | 10/68 |
| Todd Co. | 5/60 | 6/64 | Clark Co. | 3/43 | 7/62 |
| | | | Columbia Co. A. | 7/58 | 10/62 |
| <u>Tennessee</u> | | | Cowlitz Co. A. | 1/46 | 9/53 |
| DeKalb Co. | 9/63 | 1/67 | Entiat A. | 3/63 | 9/66 |
| Meigs Co. | 4/64 | 4/68 | Jefferson Co. A. | 7/56 | 6/65 |
| Obion Co. | 9/62 | 5/66 | King Co. A. | 4/66 | 6/68 |
| | | | North Ferry A. | 7/60 | 7/67 |
| | | | | | |
| | | | <u>West Virginia</u> | | |
| | | | Brooke-Hancock-Ohio Cos. | 8/59 | 6/30/69 |
| | | | Greenbrier Co. | 7/59 | 4/65 |
| | | | Jefferson Co. | 10/62 | 8/67 |
| | | | Raleigh-Fayette Cos. | 9/61 | 12/66 |

| | SS | Map. |
|--|---------------|---------------|
| | <u>Start.</u> | <u>Compl.</u> |

Wisconsin

| | | |
|-------------------------|-------------|--------------|
| Pond du Lac Co. | <u>5/55</u> | <u>2/62</u> |
| Green Co. | <u>5/52</u> | <u>4/65</u> |
| Marquette Co. | <u>6/59</u> | <u>4/65</u> |
| Milwaukee-Waukesha Cos. | <u>3/62</u> | <u>8/65</u> |
| Trempealeau Co. | <u>4/52</u> | <u>10/67</u> |
| Washington Co. | <u>9/58</u> | <u>9/65</u> |

Wyoming

| | | |
|-------------------------|-------------|--------------|
| Fremont County- | | |
| Riverton Irrigation A. | <u>5/61</u> | <u>11/67</u> |
| Johnson Co., South part | <u>4/62</u> | <u>11/68</u> |
| South Goshen A. | <u>2/51</u> | <u>11/65</u> |

March 7, 1969

MEMO TO: Dean Cowden

FROM: S. H. Wittwer *S. H. Wittwer*

SUBJECT: Muskegon Soil Survey

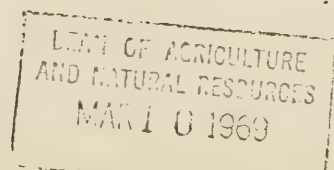
Sometime ago you posed several questions relative to the Muskegon County soil survey publication which just appeared (1968). A special ceremony is planned for presentation of this publication the evening of March 26 in Muskegon.

You may be interested in the attached copy. It took 28 years from the time the field work was completed until the report was published for Muskegon County!

There are other facts in this summary which are rather revealing. I also find that through some commitment or other we are putting more and more resources into soil survey programs each year. I'm not sure at the moment just what is going on, but I intend to find out.

SH/wla

Attachments



Summary of Soil Survey Reports Published or to be Published, since 1950

11236-1

| Mapped* U.A.E.S. | County | Published | | |
|---------------------|---|----------------------|---|------------|
| | | Field work completed | Report Published | Time lapse |
| 75% | Midland | 1938 | 1950 | 12 yrs. |
| 75% | Newaygo | 1939 | 1951 | 12 yrs. |
| 35% | Lenawee <i>BPI + Epp Sta, Stirling</i> | 1947 | 1961 | 14 yrs. |
| 85% | 1958 Montcalm | 1949 | 1960 | 11 yrs. |
| 65% | 1952 Sanilac | 1953 | 1961 | 8 yrs. |
| 30% | Ionia | 1959 | 1968 | 9 yrs. |
| 60% | Arenac* (40% L.D.M.C.) | 1954 | 1967 | 13 yrs. |
| 5% | Grand Traverse | 1958 | 1966 | 8 yrs. |
| 0% | Muskegon - <i>1939 no plan, 1940 7 mos 1963</i> | 1940 | 1963 | 28 yrs. |
| 45% | Odessa Twn., Ionia <i>for plans</i> | 1953 | 1955 | 2 yrs. |
| 70% | Denmark Twn., Tuscola | 1953 | 1955 | 2 yrs. |
| 90% | Tri-Twn., Kalkaska | 1953 | 1956 | 3 yrs. |
| 50% | Newton Area, Calhoun | 1953 | 1956 | 3 yrs. |
| 50% | Almont Twn., Iapeer | 1953 | Field sheets & interpretations to Extension Agent | |

Stanley C. Anderson in communication with special soil reports

| U.A.E.S.* | County | To be Published | | |
|----------------------------|-------------------------|----------------------|------------------------|------------|
| | | Field work completed | Report to be Published | Time lapse |
| 35%* 1952 <i>May Smith</i> | Osceola* (10% L.D.M.C.) | 1959 | 1969 | 10 yrs. |
| 35% | Lapeer | 1963 | 1970 | 7 yrs. |
| 30% | Gladwin | 1964 | 1970 | 6 yrs. |
| 12% | Macomb | 1966 | 1970 | 4 yrs. |
| 15% | Genesee | 1966 | 1970 | 4 yrs. |
| 5% | Leelanau | 1963 | 1971 | 8 yrs. |
| 5% | Ottawa | 1964 | 1971 | 7 yrs. |
| 30% | Shiawassee | 1964 | 1969 | 5 yrs. |
| 10% | Livingston | 1964 | 1972 | 8 yrs. |
| 90% | Marquette | 1960 | ? no field correlation | |
| 20% | Charlevoix | 1962 | 1972 rec'd. | 10 yrs. |
| 20% | Emmet | 1966 | 1972 | 6 yrs. |
| 22% | St. Clair | 1968 | 1971 | |
| 10%* | Delta* (55% U.S.F.S.) | 1968 | 1973 | |

Ave. 6.5 yrs

Estimated percentages of field work by Mich. Agr. Expt. Stat. (and Lands Div. Ch. Cons. Dept.)

Summary of Soil Survey Reports Published or to be Published, since 1950

11256-1

| Mapped* M.A.E.S. | County | Published | | Time lapse |
|---|--------------------------------------|-------------------------|---|---------------|
| | | Field work completed | Report Published | |
| 75% | Midland | 1938 | 1950 | 12 yrs. |
| 75% | Newaygo | 1939 | 1951 | 12 yrs. |
| 35% | Lenawee <i>API + Exp Sta, Sticks</i> | 1947 | 1961 | 14 yrs. |
| 85% | Montcalm | 1949 | 1960 | 11 yrs. |
| 65% | Sanilac | 1953 | 1961 | 8 yrs. |
| 30% | Ionia | 1959 | 1968 | 9 yrs.. |
| 60% | Arenac* (40% L.D.M.C.) | 1954 | 1967 | 13 yrs. |
| 5% | Grand Traverse | 1958 | 1966 | 8 yrs. |
| 0% | Muskegon - 1939 (no plan in file) | 1910 | 1963 | 28 yrs. - |
| 45% | Odessa Twn., Ionia | 1953 | 1955 | 2 yrs. |
| 70% | Denmark Twn., Tuscola | 1953 | 1955 | 2 yrs. |
| 90% | Tri-Twn., Kalkaska | 1953 | 1956 | 3 yrs. |
| 50% | Newton Area, Calhoun | 1953 | 1956 | 3 yrs. |
| 50% | Almont Twn., Lapeer | 1953 | | |
| <i>Stanley Andrews, Mich. in communication with special soil reports.</i> | | | Field sheets & interpretations to Extension Agent | |

| M.A.E.S.* | County | To be Published | | Time lapse |
|-----------|-------------------------|-------------------------|---------------------------|----------------------|
| | | Field work completed | Report to be Published | |
| 35%* 1952 | Osceola* (10% L.D.M.C.) | 1959 | 1969 | 10 yrs. |
| 35% | Lapeer | 1963 | 1970 | 7 yrs. |
| 30% | Gladwin | 1964 | 1970 | 6 yrs. |
| 12% | Macomb | 1966 | 1970 | 4 yrs. |
| 15% | Genesee | 1966 | 1970 | 4 yrs. |
| 5% | Leelanau | 1963 | 1971 | 8 yrs. |
| 5% | Ottawa | 1964 | 1971 | 7 yrs. |
| 30% | Shiawassee | 1964 | 1969 | 5 yrs. |
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| 90% | Marquette | 1960 | ? | No field correlation |
| 20% | Charlevoix | 1962 | 1972 | 10 yrs. |
| 20% | Emmet | 1966 | 1972 | 6 yrs. |
| 22% | St. Clair | 1968 | ? | 1971 |
| 10%* | Delta* (55% U.S.F.S.) | 1968 | ? | 1973 |
| | | | | Ave. 6.5 yrs |

Estimated percentages of field work by Mich. Agr. Expt. Stat. (and Lands Div. h. Cons. Dept.)

112362

Washington, D. C. 20250

Soil surveys in Michigan listed in
Dr. S. H. Wittwer's memorandum of 7 March 1969

Thomas K. Cowden, Assistant Secretary

The staff of the Soil Survey has recalled from the records as best it could what has happened to the soil surveys on Dr. Wittwer's list except for some of the more recent ones which are moving along normally.

Many of the early surveys, before 1947, were held up during World War II because a great many of the soil scientists and cartographers on the Soil Survey staff, then in the Service of Plant Industry, ISI, were assigned to important war work both here and abroad.

Midland and Newaygo Counties:

We have no viable records at all, but certainly they would have been caught in the squeeze of World War II.

Lanswee County:

Lanswee County got caught in the war and field mapping was suspended in 1942. The first field sheets were completed in 1946 and a draft of the manuscript for publication in 1948. It turned out there were deficiencies in both. Some revision was made in the field mapping and the correlation which was finally approved in 1957.

Montcalm County:

The fieldwork was completed in 1946, but it was not in shape for publication. The Michigan State Agricultural Experiment Station undertook to transfer the data from the old field sheets to rationalized reductions of the photographs made in the 1930s. The Michigan State staff and our staff had to make more studies in the field. A final correlation was agreed on in 1956.

Sauilac County:

We have a record that fieldwork started in 1940 and was suspended in 1944. Fieldwork was resumed in 1950 and the field mapping was completed in 1953. This too required additional field study, mainly by the Michigan staff.

Ionia County:

This work was started about 1892, mainly on an individual farm basis at first. Part of the time there were few people in the soil survey party. The original party became too small and fieldwork did not get completed until 1950. Considerable field checking was done and the final correlation was completed in 1966.

Arenac County:

A work plan was approved in 1941 and the mapping was started. Not until an amendment in 1944 was there a plan for publication of this soil survey. The field correlation was made in 1957 and map compilation began in 1958. A final correlation was arrived at in 1964 and the maps and text were prepared and sent to the Government Printing Office.

Grand Traverse County:

Mapping was begun in 1941. This county got caught in the war. Mapping was reported completed in 1955, but without an adequate descriptive legend, so that had to be prepared and the correlation process took some additional time.

Muskegon County:

This survey of individual farms began in 1933 as a soil and erosion survey. Later it was agreed that this work would be continued cooperatively between the Soil Conservation Service and the SAE as a combined soil and economic survey. Apparently, the southern half had fieldwork fairly well along by 1940 and the northern half by 1941. Then in 1955 a suggestion was made that perhaps this work could be revised for publication as a soil survey and additional field studies were made. A proposed work plan for a published soil survey was approved in 1953 and the final correlation was made in 1966 along with a manuscript for the text.

Township Surveys:

These five township surveys were managed by Michigan State University under a project proposed by Stanley Adrees. So far as we know, and the records are not entirely clear, the Soil Conservation Service took little part with the mapping or correlation of these small surveys. They were published as bulletins by the Michigan State Agricultural Experiment Station.

117-64
Thomas K. Cosham

3

Giscola County:

Giscola County was initiated by Michigan State University and the State Department of Conservation in 1952. The field mapping was completed in 1959, but without an adequate descriptive legend which delayed the field correlation. A final correlation of the soils was jointly approved in 1964.

Most of the other Michigan surveys are moving along normally, but I do need to comment on two others, as follows:

Marquette County:

During the 1940's and 1950's, and our records are incomplete, Professor Veatch, Mr. Schneider, and perhaps others at Michigan State made what were called "land-type" surveys for the use of the State Department of Conservation and at least partly or mainly with funds supplied by that Department.

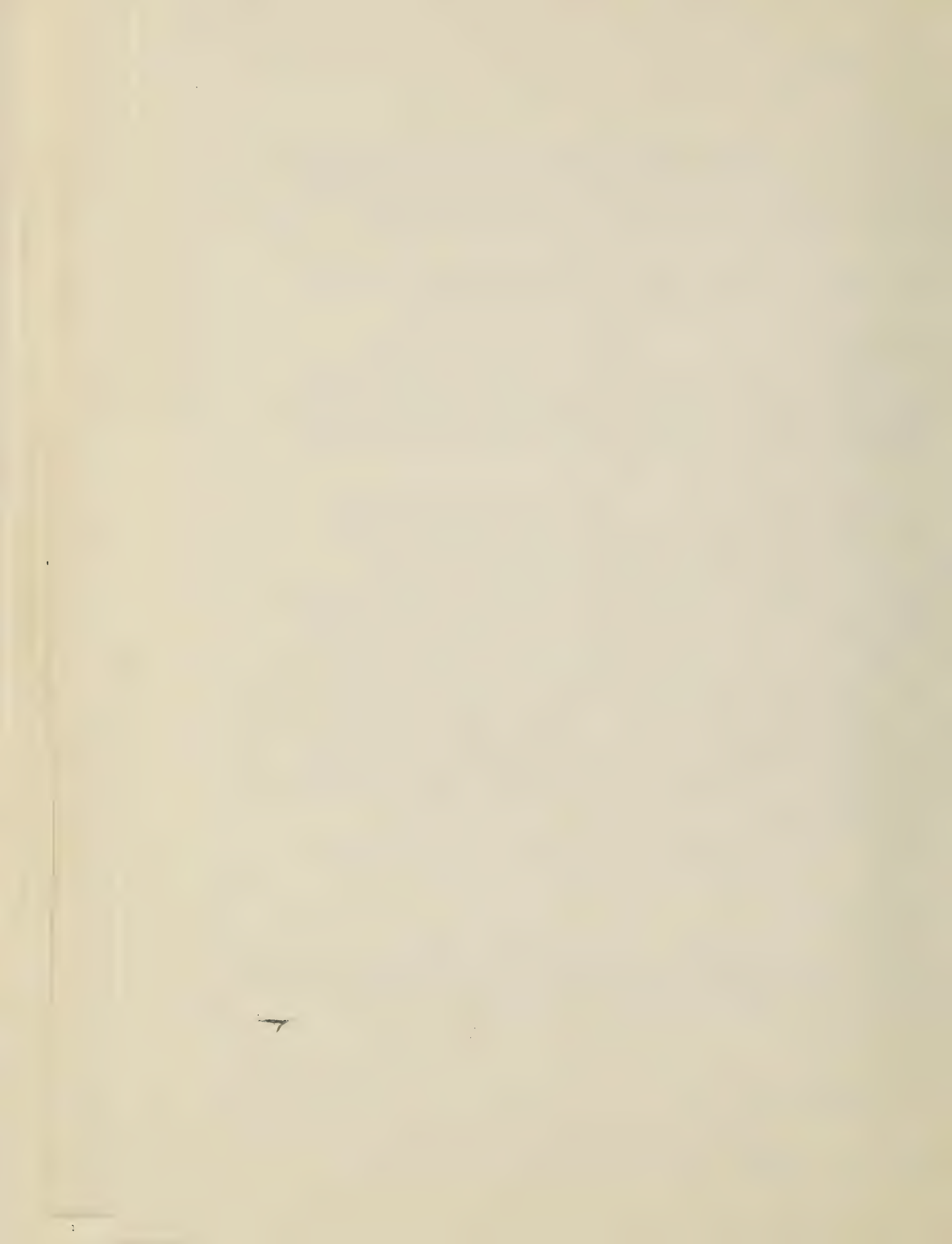
While Professor Schoenmann was still active at Michigan, he asked the Soil Survey staff of the Bureau of Plant Industry to examine these surveys in the field and in the office to see whether or not they could be published as soil surveys. Dr. Kellogg recalls a 2-day conference, after field examination by a soil correlator, at Michigan State with Roy Schoenmann and Professor Veatch. Professor Veatch did not always keep field notes. There were so many differences in mapping units having like symbols that there seemed no way short of remapping to name and to describe these units as required in a published soil survey. Further, there were variations in the base maps used in the soil mapping and the aerial photographs proposed for use in publishing the soil survey. After considerable study and effort, it was finally decided by all concerned that the cost of redoing the work and of publication for such a general survey would not justify the funds required.

Other "land-type" surveys appear not to be included in your list.

Charlevoix County:

Late in 1953, a work plan was developed for a published soil survey and the fieldwork was mostly completed about 1964 except that some additional field studies were required for correlation in 1967.

Administrator



March 7, 1969

MEMO TO: Dean Cowden

FROM: S. H. Wittwer

SUBJECT: Muskegon Soil Survey

Sometime ago you posed several questions relative to the Muskegon County soil survey publication which just appeared (1968). A special ceremony is planned for presentation of this publication the evening of March 26 in Muskegon.

You may be interested in the attached copy. It took 28 years from the time the field work was completed until the report was published for Muskegon County!

There are other facts in this summary which are rather revealing. I also find that through some commitment or other we are putting more and more resources into soil survey programs each year. I'm not sure at the moment just what is going on, but I intend to find out.

SHW/la

attachments

DEAN OF AGRICULTURE
AND NATURAL RESOURCES
MAR 10 1969

Summary of Soil Survey Reports Published or to be Published, since 1950

| Mapped* M.A.E.S. | County | Published | | |
|---------------------|---|-------------------------|--|---------------|
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| 0% | Muskegon - (92% L.D.M.C. plan for Pub.) | 1940 | 1968 | 28 yrs. ✓ |
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| 50% | Newton Area, Calhoun | 1953 | 1956 | 3 yrs. |
| 50% | Almont Twn., Iapeer | 1953 | Field sheets & inter-pretations to Extension Agent | |

Stanley Draper study in common with special soil reports

| M.A.E.S.* | County | To be Published | | |
|-----------|------------------------|-------------------------|---------------------------|---------------|
| | | Field work completed | Report to be Published | Time lapse |
| 35%* 1952 | Osceola*(10% L.D.M.C.) | 1959 | 1969 | 10 yrs. |
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| 10% | Livingston | 1964 | 1972 | 8 yrs. |
| 90% | Marquette | 1960 | ? No field work done | |
| 20% | Charlevoix | 1962 | 1972 | 10 yrs. |
| 20% | Emmet | 1966 | 1972 | 6 yrs. |
| 22% | St. Clair | 1968 | ? 1971 | |
| 10%* | Delta*(55% U.S.F.S.) | 1968 | ? 1973 | |

Ave. 6.5 yrs

Estimated percentages of field work by Mich. Agr. Expt. Stat. (and Lands Div. Mich. Cons. Dept.)

112381

Washington, D. C. 20250

Soil surveys in Michigan listed in
Dr. S. H. Wittwer's memorandum of 7 March 1969

Thomas X. Cowden, Assistant Secretary

The staff of the Soil Survey has recalled from the records as best it could what has happened to the soil surveys on Dr. Wittwer's list except for some of the more recent ones which are moving along normally.

Many of the early surveys, before 1947, were held up during World War II because a great many of the soil scientists and cartographers on the Soil Survey staff, then in the Bureau of Plant Industry, ARS, were assigned to important war work both here and abroad.

Midland and Newaygo Counties:

We have no viable records at all, but certainly they would have been caught in the squeeze of World War II.

Lenawee County:

Lenawee County got caught in the war and field mapping was suspended in 1942. The first field sheets were completed in 1946 and a draft of the manuscript for publication in 1948. It turned out there were deficiencies in both. Some revision was made in the field mapping and the correlation which was finally approved in 1957.

Montcalm County:

The fieldwork was completed in 1946, but it was not in shape for publication. The Michigan State Agricultural Experiment Station undertook to transfer the data from the old field sheets to ratioed reductions of the photographs made in the USDA. The Michigan State staff and our staff had to make more studies in the field. A final correlation was agreed on in 1956.

Sanilac County:

We have a record that fieldwork started in 1940 and was suspended in 1944. Fieldwork was resumed in 1950 and the field mapping was completed in 1953. This too required additional field study, mainly by the Michigan staff.

All surveys in Washington State are
by U. S. National Survey of 1900-1909

James H. Connelley, Assistant Surveyor

In view of the fact that the survey was conducted from the records of
the U. S. National Survey of 1900-1909, it is not possible to say whether or not
the survey was made by the same person who made the survey of the same
land in 1900.

One of the early surveys, before 1900, was made by George W. Smith
as it shows a great many of the old subdivisions and boundaries
of the National Survey, then in the hands of the National Survey, and
the National Survey was made by the same person who made the survey of the same
land in 1900.

Survey of 1900-1909

I have no reliable records at all, but certainly they would have been
made in the records of the U. S. National Survey.

Survey of 1900-1909

James Connelley was caught in the war and field surveying was suspended
in 1900. The first field survey was completed in 1900 and a draft
of the survey for publication in 1900. It turned out there were
mistakes in the field. Some corrections were made in the field
at the time the survey was finally approved in 1900.

Survey of 1900-1909

The fieldwork was completed in 1900, but it was not in shape for
publication. The National Survey of 1900-1909 was made by
James Connelley, who was then in the hands of the National Survey, and
the National Survey was made by the same person who made the survey of the same
land in 1900. A field
survey was made in 1900.

Survey of 1900-1909

A point is noted that the fieldwork started in 1900 and was completed
in 1900. The fieldwork was made in 1900 and the field survey was
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Ionia County:

This work was started about 1952, mainly on an individual farm basis at first. Part of the time there were few people in the soil survey party. The original party leader was transferred out and fieldwork did not get completed until 1959. Considerable field checking was done and the final correlation was completed in 1965.

Arenac County:

A work plan was approved in 1951 and the mapping was started. Not until an amendment in 1954 was there a plan for publication of this soil survey. The field correlation was made in 1957 and map compilation began in 1958. A final correlation was arrived at in 1964 and the maps and text were prepared and sent to the Government Printing Office.

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The History

It was not until about 1900, when the first railway line was built, that the first time was the year 1900. It was not until about 1900, when the first railway line was built, that the first time was the year 1900. It was not until about 1900, when the first railway line was built, that the first time was the year 1900.

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112305
Thomas K. Cowden

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Osceola County:

Osceola County was initiated by Michigan State University and the State Department of Conservation in 1952. The field mapping was completed in 1959, but without an adequate descriptive legend which delayed the field correlation. A final correlation of the soils was jointly approved in 1966.

Most of the other Michigan surveys are moving along normally, but I do need to comment on two others, as follows:

Marquette County:

During the 1940's and 1950's, and our records are incomplete, Professor Veatch, Mr. Schneider, and perhaps others at Michigan State made what were called "land type" surveys for the use of the State Department of Conservation and at least partly or mainly with funds supplied by that Department.

While Professor Schoenmann was still active at Michigan, he asked the Soil Survey staff of the Bureau of Plant Industry to examine these surveys in the field and in the office to see whether or not they could be published as soil surveys. Dr. Kellogg recalls a 2-day conference, after field examination by a soil correlator, at Michigan State with Roy Schoenmann and Professor Veatch. Professor Veatch did not always keep field notes. There were so many differences in mapping units having like symbols that there seemed no way short of remapping to name and to describe these units as required in a published soil survey. Further, there were variations in the base maps used in the soil mapping and the aerial photographs proposed for use in publishing the soil survey. After considerable study and effort, it was finally decided by all concerned that the cost of redoing the work and of publication for such a general survey would not justify the funds required.

Other "land-type" surveys appear not to be included in your list.

Charlevoix County:

Late in 1959, a work plan was developed for a published soil survey and the fieldwork was mostly completed about 1962 except that some additional field studies were required for correlation in 1967.

Administrator

CEKellogg:mhp 8/15/69

Section 2

The survey was initiated by the State Department and the Bureau of Census in 1955. The first survey was completed in 1959, but without an adequate description of the field operation. A final extension of the survey was completed in 1961.

At the time the survey was being conducted, it was not possible to comment on the survey, as follows:

Section 3

When the first survey was completed, the results were published in the Survey of the National Health and Vital Statistics, and the results were published in the Survey of the National Health and Vital Statistics. The results were published in the Survey of the National Health and Vital Statistics, and the results were published in the Survey of the National Health and Vital Statistics.

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The "first-type" survey was not to be included in the survey.

Section 4

The first survey was completed in 1959, and the results were published in the Survey of the National Health and Vital Statistics. The results were published in the Survey of the National Health and Vital Statistics, and the results were published in the Survey of the National Health and Vital Statistics.

Tuesday, August 19, Downes of Victoris, Australia came in for a chat. He didn't appear to have learned much.

Wednesday, August 20, Bill Johnson and I had an all-morning conference with Roy Simonson. Roy had sent Dr. McClelland, our principal soil correlator in Lincoln, a nasty memo and demanded a change in the correlation in Carroll County, Illinois. (One copy attached) Actually these maps were being prepared and the timing was too late. Simonson's office had had months to deal with this and had failed to do so. Simonson was getting more and more difficult. He failed to give the principal correlators much help and irritated many with his arrogance. This was a great pity since he had many talents. Yet for several years he had been writing papers for outside publication. Some of these were on subjects with which he had scanty experience or knowledge. To my embarrassment I found he had been copying with slight changes some of my papers on tropical soils and agricultural development abroad.

I went over in some detail each point in the correlation. The decisions were close and difficult. Happily, and somewhat to my amazement, Simonson agreed with my decision to uphold McClelland. (One copy attached)

August 21 was a normal day of memos and conferences. Very late in the evening Bill Johnson, Mommy, and I went to the Baltimore airport to meet Robert and his family coming from Iceland. The plane was very late and slow in unloading the baggage. Two of the bags failed to show. I think I never saw four more tired people. We reached home about 3:00 a.m. Friday morning and then talked for a while. Fortunately we could tell them that the terrible hurricane Camille had missed their home by a few miles.

Friday, August 22 I had a conference most of the morning with our personnel people and two from the Civil Service Commission. I explained the increasing complexity of the Soil Survey, and the increasing requirements

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D.C. 20250

SOILS - Carroll County, Illinois, Correlation DATE: August 20, 1969

J. E. McClelland, Principal Soil Correlator
MWRTSC, SCS, Lincoln, Nebraska

Today Dr. Simonson, Mr. Johnson, and I have gone over carefully the material we have here with respect to this correlation. Unhappily, we did not have a descriptive legend or descriptions of the mapping units.

It does seem to us that we are getting somewhat unduly large families within which the distinctions between series are going to be somewhat difficult with the majority of our field soil scientists as well as those working with the state experiment stations. If you look at all the series in the same family with the Flagg series, I think you will agree that things are pretty tight.

It was not always clear how a decision was made that the underlying layer was part of a paleosol and rather than simply a geological stratum.

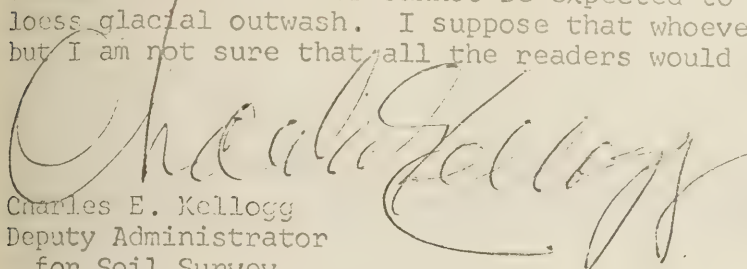
We realize that this correlation has been around for quite a long time and that probably these names have become fixed in tables of interpretations and the like. Certainly we do not want to do anything that appears to be arbitrary and unnecessary so we have agreed that your amendment may stand, including the four soil series involved--Flagg, Coatesburg, Myrtle, Ogle.

We all recognize that this decision has been made a bit reluctantly but with recognition of the needs of our cooperators and to get on with the work without further delay.

We do hope that in any future correlations before you start you insist on the necessary materials, including soil handbooks and descriptive legends, regardless of who does the soil survey field work. Where the evidence is somewhat conflicting, many factors bear on correlation decisions besides pedon descriptions. For example, we may get some important insights from at least preliminary interpretations, which should be worked out with reasonable care long before the field work was done.

Then too, in studying these yellow sheets I notice that either in Illinois or Lincoln, only, the plural of solum is "solums". Elsewhere the plural is "sola".

In some of these yellow sheets we had a bit of trouble about the nature of the geological material. In one place it may be stated that the soil is developed from glacial drift. Now this is a broad term and includes till, outwash, and lacustrine deposits. Elsewhere in the same description reference is made to till and to moraines. Thus, the reader is a bit uncertain as to whether or not the soil can or cannot be expected to have underneath the loess glacial outwash. I suppose that whoever wrote these knew, but I am not sure that all the readers would know.


Charles E. Kellogg
Deputy Administrator
for Soil Survey

cc:
Roy W. Simonson

112-11

Federal Center Building, Hyattsville, Maryland 20782

SUBJECT: SOILS - Final Correlation, Carroll County,
Illinois

August 7, 1969

TO: John E. McClelland
Principal Soil Correlator
Midwest RTSC, SCS
Lincoln, Nebraska 68508

Your recent amendments to the final correlation of Carroll County, Illinois, arrived last week. We had completed our review of the earlier proposals from Illinois and from your office and were preparing an amendment when amendments were received.

In light of the correspondence earlier this year concerning the correlation, your action in issuing the amendments was a mistake. Irrespective of the validity of the arguments in support of one or another of the alternative proposals for correlation of particular soils, the obvious interpretation of your action is that a principal soil correlator can countermand a decision of the Director, Soil Classification and Correlation with respect to soil classification and correlation in the cooperative soil survey. So it will seem to the state soil scientists and to our cooperators. This would not be a workable arrangement for achieving a national system of classification and correlation. Such an arrangement would provide for separate systems in the several regions as time passes. Consequently, we have given considerable thought to ways and means of correcting the impression that must follow from your action. Beyond the correcting of the impression, some of the changes made by your first amendment are not acceptable and need to be canceled.

What can best be done in the present circumstances entails a disagreeable choice. One possibility is for you to issue a third amendment to cancel part of your first amendment. Another possibility is for us to issue a third amendment making the necessary changes. Neither alternative is a happy choice, but something must be done. The first alternative seems the better of a pair of unpleasant choices.

Specific points of difference in the correlation of soils are considered in a separate memorandum which is enclosed. That memorandum will place the responsibility on this office for the judgments on which we disagree. A copy of that memorandum could be sent to Illinois to explain the third amendment, if you wished.

Roy W. Simonson, Director
Soil Classification and Correlation

Very truly yours,

Page 11

Very truly yours,

Illinois

Very truly yours,

Illinois

Illinois

Illinois

Very truly yours,
Illinois

Very truly yours,
Illinois

Very truly yours,
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Very truly yours,
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Very truly yours,
Illinois

17242.
Dr. Charles E. Kellogg, Deputy Administrator
for Soil Survey, SCS, Washington, D. C.

Aug. 14, 1969

John E. McClelland, Principal Soil Correlator, MRTSC,
SCS, Lincoln, Nebraska

SOILS - Carroll County, Illinois

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Some problems have arisen about this correlation that will have to be resolved by you. It is my belief that soil series are not laid up in heaven and that we have to grant some leeway to our cooperators if we are going to work effectively with them. Possibly in the process we will have a few extra series. But we have managed to accumulate some of these under our own power.

Carroll County is an example I hope that we never follow again. This was a cooperative soil survey with the Experiment Station. The intermediate correlation was submitted to Washington on October 12, 1961. However, numerous questions were not resolved until August 29, 1962 (JKA to RWS). Late in 1962 the University of Illinois published a management guide based on the intermediate correlation.

In February 1964 Illinois inquired about the final correlation (Tyler to RWS) and was informed that the correlation may be worked on in the near future. On June 2, 1967 Andy again inquired about the status of the final correlation because the correlations of Stephenson County, Illinois and Green and Walworth Counties, Wisconsin were being scheduled and some of the same soils were involved. On August 2, 1968 Frank Carlisle said the correlation would be finished by the end of August 1968. (I wrote after hearing from you so that you could reply to an inquiry from Howard Busch.) I again wrote on November 27, and in March 1969 we received the final correlation which we distributed.

On April 11 Alexander, Fehrenbacher, Odell, Ray, and Runge of the Experiment Station met with Tyler and Walker. They objected to some parts of the final correlation mainly the combinations of Coatsburg series with Clarinda, Myrtle with Batavia, Flagg with St. Charles, Ogle with Plano, Hitt with Atkinson, and Woodbine with Roseville series. On May 16 I wrote to Roy requesting his office to reconsider these combinations in the final correlation. I also wrote a separate letter pointing out that I didn't think we were in a very good position to make an example of Carroll County.

In the meantime we had been holding up the correlations of Stephenson County, Illinois and Green County, Wisconsin. When we didn't hear from Roy's office for nearly two months I issued an amendment to the correlation and signed the Stephenson and Green County correlations. It was my opinion that this had dragged on long enough. Compilation of the map by the University of Illinois was being held up.

Aug. 14, 1933

Dr. Charles E. Kellogg, Deputy Administrator
for Soil Survey, SCS, Washington, D. C.

James E. McLaughlin, Principal Soil Surveyor, SCS,
Lincoln, Nebraska

Soils - Cornbelt County, Illinois

DEAR SIR:

Errors have arisen about this correlation that will have to be resolved. It is my belief that the correlation was made up in haste and that the errors were caused by the fact that the correlation was made up in haste. I am sure that the correlation was made up in haste and that the errors were caused by the fact that the correlation was made up in haste.

It seems to me that the correlation was made up in haste and that the errors were caused by the fact that the correlation was made up in haste. I am sure that the correlation was made up in haste and that the errors were caused by the fact that the correlation was made up in haste.

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1124d
Charles E. Kellogg

-2-

On August 11 I received two letters from Roy (copies attached). While he mentions alternatives in his letter of August 7 he overlooked one. I am sure relationships with Illinois will be much better if the amendment stands and his letter of August 8 is not distributed. (So far I have not done so.) To my knowledge the principal soil correlators complete all final correlations and amendments. Illinois might wonder why an exception was made for Carroll County and interpret the issuance of the final correlation from Washington as a slight on this office.

Your advice is requested. Withdrawing my amendment will not bother me, but I assure you the course of action I followed will ensure better relationships with the University of Illinois than pursuing either course that Roy suggests.

Attachments 2

FOR OFFICIAL USE ONLY

...of the ...
...in his letter of August 7 ...
...with Illinois will be such that it ...
...of August 8 is not distributed. (So far I have not seen it.)
...the principal self-correlations ...
...interpret the issuance of the final correlation from Washington as
...in this office.

...is ...
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... the ...

for successful work, especially for party leaders.

Mary Alice came about noon and I took leave for the afternoon to spend with the newly-arrived family.

The Guggenheim Fellowship surely gave Robert an excellent opportunity without much reduction in his income.

Saturday morning Robert helped some with mowing the lawn. After lunch Mommy took Robert, Joan, and the children to Charlottesville. I finished the garden, bathed, and was early to bed.

Sunday I made a once over in the garden and read. Mommy was back home about 9:30 a.m.

August 25 I had a lot more figuring on how ~~we~~ could spend either \$250,000 or \$500,000 Soil Survey increase for fiscal year 1971, in place of our planned increase of over \$1,000,000 to get started on the enormous backlog of unpublished soil surveys allowed to accumulate by D. A. Williams. Then too, we were supposed to do this without hiring any people. (Memo~~s~~ attached)

On August 26 we completed this and the next day I got caught up on dictation and memos.

August 28 I went to Group Health early in the morning for another shot of cortisone in my painful left shoulder.

When I returned to the office I was presented by the program planning and budgeting boys with a demand that I give them estimates of the total amount of all Soil Survey funds used in selected fiscal years and planned for future ones for work on timbered lands, under three categories: (1) federal lands, (2) state and county lands, and (3) private lands. Of course records were not kept in this way and they would be terribly expensive. With Joe Kingsbury to take notes I did the job personally

N 250

WASHINGTON, D.C. 20250

Use of an Increase of \$250,000 or \$500,000
for the Soil Survey in Fiscal Year 1971

August 25, 1969

Kenneth E. Grant, Administrator

With a proposed increase in funds for the Soil Survey of \$250,000 in 1971, we would expect to send to the Government Printing Office 55 soil surveys in fiscal year 1971 in contrast to 42 in fiscal year 1969 and an earlier plan for 52 in 1970; and this would permit the preparation of base maps and map compilation in the Cartographic Division for 62 soil surveys in fiscal year 1972 and 65 in fiscal year 1973.

With an increase of \$500,000 for fiscal year 1971, we would plan, at this late date and without the necessary preliminary cartographic work, on 55 soil surveys going to the printer in fiscal year 1971; do the preliminary cartographic work for 70 soil surveys for fiscal year 1972 and on 75 soil surveys for fiscal year 1973; and the editing on about 10 additional soil surveys for 1972. For these numbers of surveys, an increase for editing and printing of \$200,000 would be required for fiscal year 1972 and another increase over 1972 of \$100,000 for fiscal year 1973.

Required reductions in expenditures for 1970 make it impossible to meet our original estimate of 52 soil surveys going to the printer in 1970.

Charles E. Kellogg
Deputy Administrator for Soil Survey

cc:
Mr. Berg
Mr. Dorny
Mr. Campbell

MEMORANDUM FOR THE DIRECTOR

DATE: 10/1/54

TO: THE DIRECTOR, FBI
FROM: SAC, NEW YORK (100-100000)

SUBJECT: [Illegible]

On a previous occasion in New York, the New York Office advised the Bureau that it was unable to locate the [illegible] of [illegible] in New York. It was further stated that the [illegible] of [illegible] in New York was [illegible] and that the [illegible] of [illegible] in New York was [illegible]. It was also stated that the [illegible] of [illegible] in New York was [illegible] and that the [illegible] of [illegible] in New York was [illegible].

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Very truly yours,
[Illegible Signature]

cc: [Illegible]
cc: [Illegible]
cc: [Illegible]
cc: [Illegible]

by using a vast number of maps and making my best judgment.

Friday, August 29, we finished the timberland estimate and turned it in about 10:30. I was nearly exhausted.

August 30 and 31, Mommy and I both worked in the garden most of the time because it all had to be watered as well as pruned.

On Sunday evening we went to the Johnson's for a visit with the Flachs.

September 1, Labor Day, I mostly read and wrote. After my baking and exercise I had the worst pain in my back that I had experienced in more than 20 years. Later I decided that it was the breaking of the partially knit curvature and might have been a good thing.

Tuesday, September 2, I drove to the office and got together illustrations for some writing on how to keep notes. Then we also had another crisis on the timing and estimates for the increases we had worked out on August 25.

September 3 those papers were finished and I began working on ways to pry loose our contracts for cartographic work. By some stupid clerk somewhere in USDA or Bureau of the Budget these got into the category of "construction contracts." In fact they are no different than ordering paper and notebooks.

In the afternoon I had a conference with Biggerstaff, a soil scientist from Idaho chosen by someone for an assignment in Nigeria. He seemed to be an average sort of soil surveyor and a little cut above most of those going abroad.

On September 4 and 5 I spent much of my time on budgets for 1970-1971 and wrote memos indicating the urgent needs for small amounts of funds for high-altitude aerial photographs and for map-finishing contracts.

Without these contracts our costs for soil surveys would be very much higher and our schedules for completions would be wrecked. (Memo to Grant attached.)

Also I finished the draft of a paper on notes taken by soil scientists.

Saturday, September 6 I spent most of the day in the garden.

The next day I did a little in the garden and worked a little on books and on this C.V.

On Monday, September 8, I began a week as Acting Administrator of the Service since Mr. Grant is at the state conservationists' meeting in Wyoming.

I worked with the Cartographic staff in lining up what we needed to have to push for high altitude photographs for both old and new soil surveys. I made a brief call on Assistant Secretary Cowden to explain simply how some of our contracting in the Soil Survey got caught in these general orders about contracting and that I was convinced that there was no intention to include them. I explained that the use of high flights had been experimented with for a couple of years and we knew this year that their use would save us considerable money in the other operations since we could avoid the expensive job of making mosaics from the low flight pictures. I also explained the regular procedures for contracting the map finishing, which we started when the wage board foolishly included scriving with photo engraving. I also explained our contracts for editing.

Thursday, September 9, I called a conference in order to develop, for at least this week, a common statement that anyone in the Service would make in answer to inquiries about what we would do in servicing ACP referrals dealing with measures to prevent pollution and improve environmental quality. In both offices I dealt with several memoranda.

1127a

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SUBJECT: Use of an Additional Increment of \$500,000
for the Soil Survey in Fiscal Year 1971

DATE: September 5, 1969

TO: Kenneth E. Grant, Administrator, SCS

At the fiscal year 1970 program level of \$19,500,000, we expect to send 52 soil surveys to the Government Printing Office.

To move as vigorously as we should to publish soil surveys with field work already completed, we could make excellent use of \$500,000 - not simply \$250,000. Yet to use this efficiently we would need at least 30 additional employees and a much higher proportion of the work done through contract than we originally estimated.

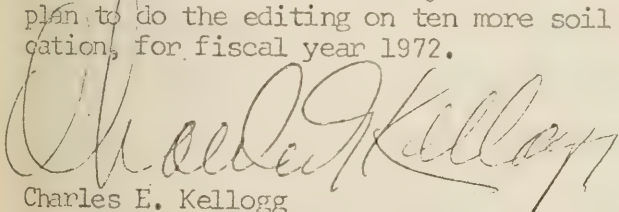
With the additional increment of \$500,000 in fiscal year 1971 above the 1970 fiscal year program level: We would plan, at this late date, and without the necessary preliminary Cartographic work, to send three more soil surveys to the Government Printing Office for a total of 55.

Also we would plan to do the advanced Cartographic work on 41 more soil surveys awaiting publication -

18 more for fiscal year 1972 for a total of 70, and

23 more for fiscal year 1973 for a total of 75, and

plan to do the editing on ten more soil surveys, awaiting publication, for fiscal year 1972.



Charles E. Kellogg

Deputy Administrator for Soil Survey

Wednesday, September 10, both Ken Grant and Herz were here for talks with Cowden and hearings on the 1971 budget. We now had full clearance on the contracting for the high flights and we set up priorities. Cartographic agreed to do their best to have invitations for bidding out the next day. There was not much time left in the northern states prior to the likelihood of snow. We notified the states most concerned that had their own money set aside for this purpose.

I talked with Ken Grant briefly after the hearings in the Secretary's office around 5 o'clock. He said, "The hearings would have gone well if it had not been for the Soil Survey." I pressed him to explain and he told me that the Secretary himself had been extremely critical of the Service for having this backlog of soil surveys, and that we were to give this top priority. Grant said to me to figure out a way to do this without any more money! I told him that I would have a memorandum for him in a week, which would explain how to make a quite good start without any additional funds. What I thought to propose was that all surveys with very long and unnecessary symbols should be returned to the states and they should be required to make fair and clean sheets on either mosaics or high flights instead of sending them to Cartographic. Then later I knew I should have to find some way to get the editing done. I had waited a long time for something like this. Of course, this backlog was no fault of Mr. Grant's. Don Williams had consciously and purposely let them accumulate, thinking I would get the blame and not he. I doubt if it worked out the way he intended.

On September 11, I spent about 45 minutes at Group Health in waiting and getting a shot, in my very painful left shoulder, of a cortisone and novocaine mixture. The rest of the day I was very busy with my own correspondence and Ken Grant's. In the late afternoon I arranged items for Friday's staff conference.

Mary Alice and children and Mr. J. C. Dykes had dinner chez nous, partly to celebrate Mommy's birthday.

Friday, September 12, was somewhat less hectic. The staff meeting went well and mail not too bad. I arranged for Service participation in a conference on Monday, September 14, on a generally expanded program for the victims of hurricane Camille.

Saturday, September 13, Mommy and I worked nearly all day in the garden. All the plants needed watering. We also managed to make a big job of repairing the light in the attic. Late in the afternoon Bill Johnson called and told how critical Van Dersal and Jaedicke had been at the state conservationists' meeting of the Information Division and of published soil surveys. Van Dersal is a frustrated failure, I fear.

Sunday, the 14th, I made a last pass at the garden. About 4:30 Art Greeley, his wife Ann, and his daughter Lynn came for dinner in the evening. A little later Bill and Carol Johnson came. It was a pleasant evening.

Monday, September 15, Berg was back and by late afternoon I was pretty well caught up with my own mail.

The next day I put forward again an outline for a new USDA Yearbook, which probably won't get anywhere, to be called, "Rural America -- 1930-1970."

The morning of September 17 I went out to the USDA library. I had a lot of books to look up. The staff morale there was extremely low. Sherrod, the new librarian, was mainly interested in building an empire based on computer techniques. He was obviously uninterested in books or in service to the USDA. I saw some *of* the recent statements made by his assistants and by him that suggested that our National Agricultural Library should become a great national and international center ^{only} for servicing other libraries! I made arrangements at the library to have John Evelyn's Terra

sent to my office by Birch.

That afternoon I spent with our staff at Hyattsville in scheduling and other matters including arrangements for photocopies of Terra.

Thursday, September 18, we had a Soil Survey staff meeting mainly about plans for emphasizing soil survey publications, which the Secretary had insisted on in our budget allowances for 1971. This lasted until nearly 12:00. My left shoulder was very painful so I dashed up to Group Health for a shot. Berg was away and I spent most of the rest of the day on the Administrator's correspondence.

Friday, September 19, Dorny told me that he had worked out a scheme to allot the Soil Survey an additional 1/2 million dollars to get started on the publication backlog. So I had Louis Derr and Hockensmith work some more on specific plans.

I met briefly with a nice appearing young man from Queensland by the name of Moore who will be a consultant to Swindale in FAO for three months.

I called Joe Robertson and explained very briefly that for his own protection the Secretary should have a strong committee look into the library plans. I told Joe that I did not want to go into detail but that the need for such a study was great.

Saturday, September 20, required most of the day for watering the garden.

Sunday, the 21st, I mostly read and rested.

Monday, September 22, I had a big backlog from the previous week. The budget allotments came with no increase for Soil Survey but with the admonition that the Service make adjustments for expanded publication. Derr's studies had already shown that this could be done easily since the states had

already been using considerable of the Soil Survey money for unrelated work. As things were shaping up it became clear that this backlog could be handled rather easily if the Secretary keeps the pressure on Grant. Further, I am sure Grant wants to do it.

Tuesday, September 23, I worked on a memo for further field studies in the Soviet Union and made plans for a delegation to attend an FAO-sponsored conference on soil conservation in Buenos Aires.

Floyd Campbell and his associates in "PPB" gave a seminar in what they called "Conservation systems." It was a trial scheme with many weaknesses, especially in the reporting categories and in economics. Those boys knew nothing at all of the new economics initiated by Lord Keynes in 1936.

Wednesday, September 24, we had a fairly interesting seminar on aerial photographs made with infrared sensing and others with heat sensing to make possible mapping of the flood stages of the James River and its tributaries as a result of Hurricane Camille. I had seen these kinds of photographs behind a whole series of locked doors some 4 or 5 years ago.

In the afternoon I had a short conference with Ken Grant in order to outline some of the documents we were preparing for a fuller conference on this problem of balance in the Soil Survey. He pointed out that I could expect some opposition from the less able state conservationists. He admitted that this was because they confused the great differences between operations and research.

The documents planned were as follows: 1. A memorandum for his signature that the surveys submitted with bad field sheets would be returned to the states for correction and transfer to high altitude photos or, in hilly areas, to mosaic atlas sheets. 2. A financial plan for the additional \$500,000. 3. An outline showing that the states had reduced the number of

Sept 1969

soil scientists, had increased funds from non-federal sources earmarked for soil survey, and had decreased the amount of field work. Obviously they were using the soil survey money for something else. 4. A little increased personnel in editorial and for the principal soil correlators. 5. A recommendation to change the grades of the principal soil correlators to GS-15 and the fully competent assistant principal soil correlators to GS-14. I explained that this had been specifically promised by Williams about 2 1/2 years ago and Mohegan talked him out of it. For the state soil scientist who is interested and competent on the research side this assistant position should be his normal promotion step.

We had a lively conference on these items. Among other things he wanted Bill Johnson to head a committee to study the problem of getting caught up with published soil surveys, primarily so he could demonstrate that he could do it. I also chided him a bit about being gone so much the last 3 or 4 months during such critical times. I pointed out that the staff was murmuring a bit and was beginning to wonder if Grant was really in charge. I thought this did a little good.

Immediately back in the office I had a brief staff conference and explained to the men that we must play this in low key. We must insist that this is not a major problem at all and can be handled rather easily.

September 25 I got pretty well caught up on correspondence and memos. I had to write a strong one to go to the State Department about the importance of US participation in the FAO conference on soil conservation at Buenos Aires in November, 1969.

Friday, September 26, was not so heavy as usual. I got quite a bit of work done that had been postponed for several weeks.



Saturday, September 27, after a rainless week, the garden again had to be watered.

Monday, September 29, I had the usual mail and a host of memos. John Rourke reported on his trip to Bulgaria as an official US observer to the European meeting on soil classification and mapping. He had good luck on the planned field trip since it went near the more important DIA items, which he saw and for which he had explanations.

On September 30 I worked on the budget for printing soil surveys and on the delegation for the November FAO meeting in Buenos Aires, Argentina on soil conservation. Grant went away again so I needed to be Acting Administrator.

On October 1 John Barnard died and I had to organize a visit to his home. Besides the usual mail I had budget work with Mr. Dorny.

October 2 was an usual day. I did read a recent statement by Secretary Hardin about the Department and its budget. Most unhappily, it sounded about like Freeman and pictured the USDA as mainly a relief agency for farmers. What a pity!

October 3 was fairly light outside of the usual memos. I began a new revision of my reading list for release about November, 1970. Frank Parker called me about a small bob-tailed agricultural research institute and graduate school for India that is to include soil science, poultry, dairying, agricultural economics, plant protection, and drainage and irrigation. Because of the Rockefeller effort genetics and plant breeding were omitted. Although apparently initiated with FAO help UNESCO won out in the UN, which is expected to finance it. He indicated I would be offered the presidency. I checked a bit later and found that the total funds were only about \$500,000 a year. I doubted that my guardian angel would permit this kind of an assignment.

Saturday, October 4, I worked in the garden until about 2:00 p.m. Then we went to the SCS picnic. We were back home a bit after 5:30 and had a pleasant evening with Mr. and Mrs. William Johnson and Mr. and Mrs. Hollis Williams until around 9:30.

Sunday, October 5, I spent a while cleaning up the leaves in the garden. Mostly I read.

Monday, October 6, I spent about two hours with Mr. Klinkenberg, a Dutchman working in Nigeria. He struck me as an able and alert man but weak on basic soil science. Most of the rest of the day was spent with the mail and dictating three short articles for the Soil Survey Technical Newsnotes.

That evening Brady called and said that he rather doubted that he could go to Buenos Aires.

October 7 was a very busy day. I talked with Dr. Long of AID and he was anxious for Brady to go to the meeting in Buenos Aires and he thought that AID could pay the expenses. He had told me that Omer Kelley was on a long trip in Pakistan. Neither of us could think of another competent soil scientist in AID here.

I had a long talk with Ken Grant about organizing the expansion in Soil Survey publications. Partly at his suggestion, and with my encouragement, we agreed to let Johnson work on this to get experience and to get better known. Actually this was pretty straight forward and shouldn't be too much of a job. The big change was ^{that} ~~the~~ Grant and the Secretary wanted the great backlog of unpublished soil surveys completed and published. Well over 350 were on the shelf waiting their turn.

Also a young man came from the American Geological Institute to see us about the soil terms of their new glossary. It turned out that they had contracted out this glossary to a group that was not competent. He

brought an enormous mess of these soil definitions. Many were purely local and unnecessary. For most terms we had several definitions with no choice among them. They had been copied from both competent and incompetent authors. I took about half of them and Clifford Orvedal took the other half. During the following several days we both spent too much time on them.

October 8 I handled the mail and worked on these definitions for AGI mainly.

October 9 I spent with Byron Barnes and his staff looking over some of the very poorly prepared manuscripts for published soil surveys from California, Texas, and other states. Some of the small-scale maps were also poor.

In the afternoon I attended our regular scheduling conference for published soil surveys. Although McSweeney, the chief editor, had told us all along that we could send 43 to the printer this fiscal year, at this conference he dropped the figure to 44. Now it is much too late to adjust the budget notes.

October 10 there was an enormous load of mail to handle. I prepared a draft memorandum to the directors and principal soil correlators about some of the worst of the errors in the soil survey manuscripts. Without saying so the memorandum was clear that many of the errors were their fault. During the next few days this memo was reworked a bit and sent out for study and discussion at our planned meeting November 3-7.

October 11 and 12 was spent mostly in the garden with some reading and writing.

On October 13 I drove to the office early and immediately went out to the Shoreham Hotel to make a report to the ARI executive committee on the committee I was on that dealt with the establishment of a roster of qualified

Oct., 1969

scientists in the fields of agriculture who could do technical assistance overseas. Dr. Orville Bentley was chairman of this committee but couldn't come. When I got there I discovered that the secretary had already prepared and distributed a brief report exactly like I would have given. (AID had promised to finance this but with the confusion over appropriations and reorganization they couldn't do it at that time.)

I saw Dr. Brady and he wanted to go to Buenos Aires for the meeting on soil conservation but Dean Palm of Cornell was not eager for him to go. Brady told me, "I labor under the same handicaps with him and his jealousy that you had with D. A. Williams." I waited nearby for Dean Palm to come to the meeting of the Agricultural Board. When he showed up I talked with him alone for a few minutes, explaining the importance of this meeting. Hugh Bennett and others had over the years organized high pressure meetings which many of the Latin people resented. We needed people who could go and talk in low key only to answer questions and inquiries. If we did not have a delegation, the South Americans would be able to say, "If Americans cannot run the meeting they will not come. He told me that he thought Brady was going to go. "No," I replied, "he says he has too much to do. This is why I need your help very much to persuade him to do it." This buttering trick worked and the following morning Brady told me he could go. So he and Roy Hockensmith will make the delegation.

I returned to the office a bit before lunch and took care of the mail and got funds cleared for 8 soil survey editing contracts.

October 14 and 15 I attended the regular annual conference of the Agricultural Research Institute. This was a relatively small select group from across the whole field of agriculture. It was the only group in the US that considered interactions among the industrial input sectors, processing and marketing of farm products, financing, research in all these areas and farming.

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Nearly all of the program was excellent. Former Assistant Secretary Mehren made an excellent talk on the development of the industrial sectors abroad. John Hanna, who for many years was President of Michigan State University (because he married the previous President's daughter) was then the head of AID. He gave a most excellent banquet speech but I wondered whether or not he could carry out any part of it considering the abysmally weak staff.

It was very pleasant to meet many of my old friends in the colleges and industry.

The program the second day was equally good. Fortunately Dr. Will M. Myers presented an excellent paper with one big error in it. He spoke of "the difficult soils of the humid tropics." At the conclusion of his speech I pointed out that these soils were no more difficult than those between Canada and the Gulf of Mexico. This gave me a chance also to speak of the new book -- "Can primitive farming be modernized," by F. Jurion and J. Henry. I explained that this English edition had just come to me by air and was now available and absolutely indispensable for anyone working in areas like the basin of the Congo River. Afterward I had many inquiries about this book. The secretary suggested that I send them a note on it for inclusion in the proceedings which I did the next day. (I sent out several copies of this to people who wrote to me about where to get the book.)

At lunch Secretary Hardin gave an excellent talk.

October 16 I had a very busy day catching up on memos and reading -- so busy that both my secretary and I forgot the afternoon FAO birthday party.

October 17 was more of the same except that I had lunch with Bill Winston.

October 18 I worked most of the day in the garden. Bill Johnson came over to repair a mistake in the doorway of our new room.

Sunday, October 19, I mostly read.

October 20 I spent all morning lecturing to 5 Indian state agricultural officials, here at US expense, on the principle of interactions as applied to fields, villages, states, and the Union Government. They seemed to be very understanding and appreciative.

So in the afternoon I had all of my office work to do. Eight copies of Jurion's new book came.

About this day I received a USDA press release (3164-69) about conclusions of the Public Advisory Committee on Soil and Water Conservation, at which no representative of the Soil Survey was invited to attend. Still the press release quotes the Committee as strongly urging a speed up in publishing soil surveys. Now who did this? Hardin? Cowden? Or the Committee?

On October 21 in the morning I had a bad budget problem due to an absurd error by Van Dersal. Last year he had included somewhat over \$1,500,000 that we received from local counties to accelerate their soil surveys as "cost avoidance" under "management improvement." Actually this money had nothing to do with either. We received it only to accelerate the local surveys. Mr. Grant agreed and then I insisted that somehow this had to be explained by him to the budget examiners in the USDA and in the Bureau of the Budget. If local people were to find out about this they would make no contributions because it might reduce our own funds by that amount.

I also sent out about 3 copies of Jurion's book.

Near the end of the day I had areal sticky problem. Roy Simonson does a good deal of writing for outside publication. His writing is much better than the average in the Service, but there is almost nothing original in it. About a year ago he gave a speech in Minnesota that was published in which he took material from a paper I gave in Amsterdam in

1950, almost verbatim and without a citation. In making this point in a subsequent paper I was compelled to go back to my original and copy it in quotes.

Sometime ago he published in "Advances in Agronomy" a long paper on "The concept of soil." This day he asked me to sign an order for 500 reprints costing over \$300. So I looked it over carefully. The most of this paper was based on 4 or 5 of mine. He had looked at the original references that I gave and had made quotations from these authors and all that. Only a part was directly copied from my papers but nearly all of the ideas were. Yet he had only one minor reference to the many papers of mine that he used. I had Johnson and Hockensmith read it and they were amazed. I could not see why he did this. Still I gave tentative approval. In his memos to the publisher he said he wanted the reprints to fill requests from small institutes in foreign countries. In his letter to me he said he wanted them for training young people on our staff. He wrote also that it would cost about the same price in cartographic.

This day I received copies of the people whose salaries are paid exclusively by SCS but who are detailed to work in the office of the Secretary or the White House. This kind of chiseling did not start with this administration but certainly it is contrary to what is said in the budget.

On October 22 I found out that Cartographic could reproduce the 500 copies that Simonson wanted for around \$170 so I suggested that he talk it over with Mrs. Colton and the company. It was typed in his office and I doubt that they have a valid copyright. I had already written him that if we got 500 copies, 450 would be reserved in the Service for our own mailing lists.

NONREIMBURSABLE DETAILS OF PERSONNEL

Soil Conservation Service

January 1 - March 31, 1969

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| NAME AND WORKING TITLE DETAILED EMPLOYEE | DETAILED TO: | GRADE | ANNUAL | | DATE OF DETAIL | | ENDED |
|---|------------------------------|---------|----------------|----------|--|------------|-------|
| | | | SALARY RATE | BEGAN | (Indicate "Indefinite" if ending date is not known) | | |
| (1) | (2) | (3) | (4) | (5) | (6) | | |
| Daughtry, E. M. Administrative Assistant | Office of the Vice President | GS-11-4 | \$12,355 | 10/27/63 | | Indefinite | |
| Mudd, A. J. Administrative Officer | Office of the Secretary | GS-11-6 | \$13,104 | 7/5/64 | | Indefinite | |
| Weisser, I. P. Secretary | Office of the Secretary | GS-8-7 | \$10,150 | 2/27/66 | | 9/15/69 | |
| Taylor, C. W. Administrative Assistant | Office of the Secretary | GS-8-4 | \$9,298 | 10/27/63 | | Indefinite | |
| McGill, M. Secretary | Office of the Secretary | GS-7-6 | \$8,923 | 2/9/69 | | Indefinite | |
| Scates, T. Auto. Equip. Operator | Office of the Secretary | WB-5-3 | \$6,573 | 9/22/68 | | Indefinite | |
| Hardy, M. D. Contract Control Clerk | Office of the Secretary | GS-7-2 | \$7,904 | 6/30/69 | | Indefinite | |
| Taylor, J. E. Clerk | White House | GS-1-1 | \$3,890 | 6/23/69 | | Indefinite | |
| Francis, L. A. Secretary | White House | GS-5-5 | \$7,010 | 8/10/69 | | Indefinite | |

On October 25 and the previous day I wrote a short and a longer review of Jurion's book. The longer one I sent to Omer Kelley with the hope that he could get it in their AID magazine which goes to their people.

Mail and conferences were very heavy.

Dr. Guy Smith returned from Europe on October 24. I was so busy that I didn't have much time to talk with him except about the people at the Beltsville laboratory. They had each requested an enormous number of both scientific and non-scientific journals. These lists must be reduced.

I did finish reviewing hastily several of the chapters in the new system of soil classification.

Smith had planned to put a world soil map using the new system in the same volume as the text of the new system. I vetoed this because I felt sure that it would hurt the use of the system abroad. Many professors would disagree with the map and therefor would not make the book available to their students. The relation of the system to a map can be accomplished with a US soil map. I had no objection to our issuing the world map but as a separate document.

At the end of the day I learned I had to be Acting Administrator the first two days of the following week. I still thought that Grant and also Berg were out politicking a bit more than necessary.

I spent Saturday, October 25, watering and cleaning up the garden and Sunday, October 26, reading, writing, and working on the curriculum vitae.

Monday and Tuesday, October 27 and 28 I again had to be Acting Administrator. So I had my own mail and Grant's also. On Tuesday I took part in a conference with people from the Secretary's office to see how we guarded against neglect of minorities receiving our services. Since these people knew practically nothing about our programs considerable explanation of each one was necessary.

On Wednesday, October 29, I took the plane to Memphis and arrived there a bit after lunch. This was another one of the NSF lecture visits. The program was sponsored by the Department of Biology of Southwestern University at Memphis. This was a medium-sized liberal arts college with state support.

I was shown only the biology labs where they had fairly good equipment. Unhappily, the school had no people in the earth sciences.

Beginning about 4:00 p.m. I gave a lecture, mainly to lower classmen in biology, on the world potentials for food production and the requirements for realizing them, along with a bit about the population problem. Some of the students raised some interesting questions.

Immediately after the lecture I went with a few of the older people to dinner and then returned in time for an evening lecture on about the same subject to upper classmen and faculty. Here too, we had a good question period.

I spent the night in a college room and in the morning of October 30 I had conferences with faculty and students until nearly lunch time. Then I went on back home.

I was back in my office Friday, October 31, to an enormous accumulation.

I went over Bill Johnson's memo to Mr. Grant on plans for catching up on the backlog of soil surveys. (Copy attached) *(Gail alone: Ecocriticism)*

I also had a draft of a handbook on planning given to us by Mr. Davey.

The morning of Saturday, November 1, I raked leaves and in the afternoon worked on the draft of a planning guide. I discovered that it discussed not one of the vital principles in planning, was extremely repetitive, included all of the old chiches in dogmatic form, and was written in extremely poor English.

11/4/69

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

SUBJECT: SOILS - Publications - Plan to Reach Balance between Rates of Soil Mapping and Soil Survey Publication

DATE: October 31, 1969

TO: Kenneth E. Grant, Administrator

In accordance with the directions you gave me on October 7, I have studied our soil survey publication situation. I have consulted with many knowledgeable and concerned Service people about ways of overcoming the backlog of completed fieldwork and staying up-to-date on publication and have reviewed the reports of earlier studies and committee recommendations. These studies and conversations convince me that we can achieve good balance between rates of soil mapping and soil survey publication within a reasonable length of time and without straining Service resources of men and money. The present situation is outlined in the following pages. I discuss the several kinds of work needed to complete a soil survey through publication and present four alternative plans that will, I hope, enable you to see the effect of two time schedules and of improved cartographic procedures based on digitizing equipment. Estimates are given of total dollar costs and man-years of cartographic effort required for each of the four plans.

The Situation

On 30 July 1969, field mapping had been completed in 375 soil survey areas not yet published (earlier estimates give the figure 316 surveys; that was a count of only those completed surveys for which manuscripts are to be completed by FY '71). Manuscripts for about 155 of these soil surveys are now in Hyattsville. Manuscripts for the other 220 are in various stages of completion or review. Currently, field mapping is being completed at the rate of about 65 soil surveys a year and it seems likely that this rate will persist for the next several years. Forty-two surveys were sent to the printer in FY '69. A publication goal of 52 surveys was set for fiscal 1970 but difficulties in contracting for editing of four manuscripts makes it likely that we will send no more than 48 surveys to GPO this year.

Guidelines and Assumptions Used for
Preparing Plans in This Report

- (1) Increases in the number of positions must be kept to a minimum in both Soil Survey and Cartographic.
- (2) Increases in expenditures must be kept to a minimum.

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- (3) The backlog of unpublished mapping must be overcome at the earliest practical date and publication thereafter should be in balance with completions of field mapping in any given year.
- (4) Cost estimates are on the basis of fiscal year 1970 salaries and contract costs.
- (5) Estimates include the usual RTSC and Washington Office overhead costs.
- (6) Even at the end of the "catch-up period" a small backlog of completed manuscripts is needed in order to even out the workloads in editing and Cartographic shops.

Form and Content of Published Soil Surveys

A number of suggestions were made to me by state, RTSC, and Washington Office SCS people concerning the kinds of information to be included in published soil surveys and the ways in which the information should be presented. The majority of these suggestions reflect changes that we have already made in the publications or they were vague and impossible to evaluate. We have had many discussions over the years inside SCS and outside on the form and content of published soil surveys. For example, in 1958 the Agricultural Marketing Service carried out a statistical sampling of soil survey users and collected a great deal of information through a questionnaire approved by the Bureau of the Budget. The results of that study were summarized in a report dated 1959 and transmitted to the field by Advisory W-101, dated November 13, 1959. The latest report of the Washington Office Committee on form and content of published soil survey reports is dated November 28, 1967. Recommendations resulting from these studies have been put into effect. In fact, many of the recommendations had already been adopted by the time the study reports were issued. For example, in recent years we eliminated a lot of material that many reviewers felt was not really necessary and this reduced the number of text pages about 25 percent. The reduction was accomplished even though the number and detail of interpretations demanded by our users has increased considerably.

Some states have asked us to add more colored maps to the publications, which would increase costs considerably, but we have resisted those requests.

Several advisors recommend that more of the text be reduced to tables so as to shorten the manuscript and cut costs. If either of these results would occur, we would certainly shift to tables. We did publish one California survey in which the soil descriptions

and some interpretive qualities were tabulated rather than described in narrative style. We found that it was much more difficult to obtain consistency in the descriptions this way, that just as many pages of publication were required (because of the many blanks), that it cost a \$1,000 more than usual to edit this section, and that the printing cost for these pages was much higher than for the same number of pages of ordinary text.

Some advisors, unmindful of our current practices, have urged us to publish more two- or three-county soil surveys. To do this without excessive delay and expense requires that plans for such a publication be made years in advance of completion so that the surveys will be completed approximately simultaneously and so that a single manuscript will be planned and written. If this is done, a significant saving can be made in the expenditures for writing, editing, and printing, and a small saving in Cartographic. Usually, though, the extra distribution costs of multi-county publications make the total bill higher than it would have been for single-county publications.

We continue to search for ways of reducing the length of text and still provide the information needed by users of soil surveys. We are mindful that a considerable body of users do not live in the area surveyed and to be useful to them, the soil survey should include a minimum treatment of climate and general information about the area.

The following table gives the proportions of the various sections of an average published soil survey:

| | |
|---|-------|
| General information about the area | 6.4% |
| General soil map | 3.1% |
| Soil descriptions | 22.3% |
| Cropland and pastures interpretations | 15.0% |
| Woodland and windbreaks interpretations | 5.2% |
| Range interpretations | 4.2% |
| Wildlife interpretations | 2.0% |
| Engineering data and interpretations | 17.0% |
| Soil genesis and classification | 12.0% |
| Laboratory data | 6.4% |
| Urban interpretations, photographs, reference list and glossary, unused space | 6.4% |

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Obvious places to save some pages are in the large sections on soil descriptions and interpretations. We have received no suggestions that would materially reduce these parts of the publication. We could reduce or eliminate the chapter on soil genesis and morphology if we had monographs of larger regions on this subject. But we don't have them yet.

Components of Work for Completing Soil Surveys

Much of this work has to be done to make the survey suitable for most users even if it were not published. For this reason it is better to speak of "completion" than just "publication."

The three elements of the completion process and their proportional costs at present are:

| | |
|-------------------|-------|
| Editing | - 22% |
| Cartographic work | - 58% |
| Printing | - 20% |

Opportunities exist for greater efficiency in each of these activities, but not all of the controls come within SCS present authority.

(1) Technical review and editing.

Currently a technical review and most editing is done in our office in Hyattsville, but a significant part of the editing is contracted "outside." To speed up editing without a large increase in number of editors requires both:

- (a) Better manuscripts that can be edited faster, and
- (b) More "outside" editing by contract or agreement.

Soils Memorandum-71, which you signed a few days ago, will help to move toward better manuscripts. We shall need to do more. We plan to prepare an annotated check list for reviewers of soil survey manuscripts that will help authors and reviewers better to evaluate the quality of these manuscripts. We need to give even more specific directions to authors and we can do that in the new edition of the "Handbook for Authors of Soil Survey Manuscripts." We need closer supervision of authors and more careful and rigorous review of manuscripts in state and RTSC offices. Soils Memorandum-71 suggests these improvements, and doubtless improvements will come in time. A strong effort must be made to achieve promptly our goal of scientifically complete, accurate, and consistent manuscripts.

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A few additional specialists (soil scientists) in soil survey publications will be needed at the RTSC's and at Hyattsville, but no allowance for these positions has been made in the cost figures given in the accompanying plans. The specialists will be needed:

- (a) To assist in formulation of guidelines for increasing quality and quantity of manuscripts,
- (b) To give training and assistance to authors and reviewers, and
- (c) To review and criticise manuscripts as they come to the RTSC's and to Hyattsville.

A large part of the editors' time is used to correct technical inconsistencies. As manuscripts improve in quality, the time required for actual copy editing will decrease and we shall be able to accomplish more with a given allotment of funds (probably twice as much as we currently do). We are crystallizing plans now for review of manuscripts already received so as to expedite the updating and upgrading of these manuscripts. We plan to return to the field all manuscripts at Hyattsville that need revision. These will then be rerouted through the RTSC's for technical review and criticism. It is not likely that present staffs in the principal soil correlators' offices can handle this added workload.

Currently we contract for editing with a half-dozen or so non-government editors. During the past several weeks, we have been exploring (through our state conservationists) another group of possible contractors--the agricultural experiment station editorial offices. The results of these inquiries so far have been encouraging. One editing experiment is already underway with Utah State, where they propose to give us this help as a part of their cooperation in the soil survey. Several other state experiment station editors (in Colorado, Texas, and Minnesota) say that they are interested in contract editing and we are moving toward these arrangements now. It seems that these agricultural experiment station editors may become our best source of outside editing. Also, we should try to get local and state cost-sharing funds to support these experiment station contracts. A few comments from states suggest that some city and county governments and some State Associations are prepared to contribute funds to accelerate editing for publication. Meanwhile, we shall want to keep our staff of editors in Hyattsville at not less than present numbers and continue to edit some manuscripts there. We need these editors to maintain our knowledge of manuscript quality, to guide us in advising and supervising authors and to give us information for writing the contracts for editing.

To summarize, probably our biggest opportunity for improved efficiency in this area will be through improvement of the quality of manuscripts as prepared in the states. We need to get away from the difficulties caused by errors of fact and incompleteness and inconsistency in manuscripts. We must have manuscripts that can be copy-edited with a minimum of effort in a minimum of time. Prospects are that agricultural experiment station editors may become a major force in acceleration of editing. We should get at least some contributions from agricultural experiment stations and doubtless we can get some cost-sharing funds from other local, county, and state agencies.

(2) Cartographic work.

Most of the work on photographs and maps done to complete a soil survey is accomplished in SCS Cartographic Units, but a significant part is done on outside contract (aerial photography and map finishing). At the moment no way is known to extend contract work to other cartographic activities related to completion of soil surveys. Almost all present-day field mapping is done on individual field sheets. The use of atlas sheets instead (high-altitude photographs or photo-mosaics) is much more efficient because it reduces the number of sheets and, therefore, the number of "joins" required, and it simplifies manuscript map compilation. We can shift the major part of the map manuscript compilation to the states and Soil Memorandum-70 calls for that to be done. It must be emphasized that this shift is not expected to result in a substantial cost reduction to the Service--it mainly transfers workload from Cartographic to the field, a step that is required because we cannot increase the Cartographic staff at this moment. When soil scientists compile the map manuscript they correct errors that lead to a lot of time-consuming correspondence. With more efficient Cartographic procedures, particularly AMS digitizing equipment, and modest, temporary increases in Cartographic staff, we shall be able to handle the map manuscript compilation in Cartographic Units more efficiently than in any other way. Without the new equipment and staff, we shall have to continue manuscript map compilations in the states indefinitely. In fact, any substantial increase in the rate of publication of soil surveys is going to require some increase of Cartographic staff even if all of the manuscript map compilation were done in the field.

The technological innovations suggested above can result in higher levels of cartographic efficiency, giving us many more air photographs, map manuscripts, finished maps, etc., for a given expenditure. We have shifted to the use of high-altitude air photographs

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in suitable areas as rapidly as we can. These photographs eliminate the need for aerial mosaics in about 70% of the areas, making our air-photograph dollars go 25% farther. The use of AMS (Advance Mapping Systems) makes it possible to compile the map manuscript in our own units (rather than in the field) at a more efficient rate and with fewer SCS employees. AMS requires purchase of digitizing, display, and plotting equipment in fiscal years 1970, 1971, and 1972.

To summarize, the procedures spelled out in Soils Memorandum-70 will give us a big boost in the effort to overcome the publications backlog and will serve as valuable training to people in the states in improving field sheet quality. We should move in the direction of using atlas sheets for all field mapping. These improvements, plus the use of Advance Mapping Systems will result in at least 20% rise in efficiency of the Cartographic operations involved in completion of soil surveys. The digitized map data would also become part of the Soil Survey Data Bank without additional cost.

(3) Printing.

Soil surveys are printed and bound either by GPO or by outside printers and binders operating under contract with GPO. Ordinarily, the text is printed by letterpress using hot lead composition. Maps are printed by offset lithography under separate contract. SCS prints a number of the more difficult maps by coordination with GPO. We could print more of the maps (all of them, in fact) if we were permitted to buy more printing equipment and to hire staff to run it. We could also print the text of soil surveys with this equipment and the larger staff. This would save some time over the present procedure and would give us better control of quality and schedules than we now have. But it is not certain that printing costs would be greatly reduced.

A number of people have been impressed with the Lake County, Tennessee, soil survey, especially by the speed with which printing was accomplished by GPO. This whole job was printed by offset lithography, using cold-type composition prepared by SCS at Hyattsville, using magnetic tape typewriter. This is a small publication of a relatively simple area and is scarcely representative of the kind of job that is normally done in publication. Nevertheless, offset lithography does offer some possibility for speeding up publication without increasing expenditures. It should also result in fewer delays in printing after the manuscript

is delivered to GPO. This is because only the camera-ready copy needs to be proofed; the reading of galley and page proofs is eliminated in this process, as are costly corrections and revisions. Whether or not we can prepare camera copy of edited manuscripts in our own shops depends on manpower and expenditure limitations. Whether or not we should do this depends on the cost compared with cost of hot lead composition. We should explore the possible advantage of magnetic tape typewriting of manuscripts in state offices and RTSC's, after final editing. If we shift more to offset lithographic reproduction of texts, it may even be efficient to have the edited manuscripts typed on outside contract.

The cost figures given in tables 1, 2, 3, and 4 include \$9,000 per survey for printing and binding, which is the current average cost. Because no clearly defined alternative to our present procedure is evident, the assumption was made that we would continue to send edited manuscripts and the press negatives of maps to GPO for printing. A change to offset lithography of cold-composition (typewriter) text would probably be somewhat more efficient, but comparative cost figures so far have been impossible to get.

The Four Plans

Tables 1-4 give four different schemes for publishing the backlog of surveys plus the annual accumulations and for reaching a balance within 7 years (tables 1 and 3) or within 10 years (tables 2 and 4). Tables 1 and 2 are based on the present methods of map manuscript compilation. They are presented to give emphasis to the advantages of the AMS procedure given in tables 3 and 4. In all of these schemes, the use of high-altitude aerial photography in appropriate areas gradually replaces low-altitude photography and aerial mosaics, thus extending the value of the cartographic dollar. Probably interest will center on the 7-year scheme because of the urgent need to catch up on publication. The 10-year scheme is given in order to show the trends of decreasing cost per survey as improved procedures begin to take effect.

Printing costs are assumed to remain constant throughout the periods covered by these plans.

Editing costs are assumed to remain about at current levels through fiscal year 1971. Thereafter, editing costs have been reduced by 50% over a 5-year period, a reflection of higher quality manuscripts. After fiscal year 1976, editing costs are again assumed to remain constant.

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Comparison of these cost estimates with those presented in our table, "Soil Survey Funding with Kinds of Work Required," October 11, 1969, and in the material provided for BoB's Stanley Berman on October 24, 1969, shows some small discrepancies. This is because we earlier used a backlog figure of only 316 surveys (instead of 375), because the current annual completion rate was estimated to be 90 (it is actually about 65) and because the earlier estimates include salaries of additional editorial staff not put in the schemes given in tables 1-4.

Finally, table 5 gives estimates of Cartographic work requirements in each of the four schemes. The advantages of schemes using AMS are obvious. The apparent advantage of the 10-year scheme is, of course, related to the rate at which improved efficiency in editing and cartography occurs. It takes about 7 years to reach the maximum benefits in our improvements in manuscript and map compilation techniques. Thus, in FY 1977, when we would publish 65 soil surveys, the total cost of completion, including printing, would be \$42,220 per survey using conventional map compilation methods, but only \$35,050 per survey if Advance Mapping Systems (AMS) are used.

TABLE 1.

WORK SHEET FOR ESTIMATING COSTS OF COMPLETING AND PUBLISHING SOIL SURVEYS--
 CONVENTIONAL MAP MANUSCRIPT COMPILATION
 --7-YEAR SCHEDULE--

| Cal Yr. | Number of Publications | Kind of Work | Cost of Work* | Totals |
|---------|------------------------|------------------------------|----------------|----------------|
| | | | <u>Dollars</u> | <u>Dollars</u> |
| 1970 | 48 | Editing and technical review | 518,100 | |
| | | Cartographic | 1,637,900 | |
| | | Printing | 432,000 | |
| | | Total 1970 | | 2,588,000 |
| 1971 | 60 | Editing and technical review | 667,100 | |
| | | Cartographic | 2,167,000 | |
| | | Printing | 540,000 | |
| | | Total 1971 | | 3,374,100 |
| 1972 | 80 | Editing and technical review | 787,100 | |
| | | Cartographic | 2,973,300 | |
| | | Printing | 720,000 | |
| | | Total 1972 | | 4,480,400 |
| 1973 | 125 | Editing and technical review | 1,067,100 | |
| | | Cartographic | 3,764,700 | |
| | | Printing | 1,125,000 | |
| | | Total 1973 | | 5,956,800 |
| 1974 | 150 | Editing and technical review | 1,117,100 | |
| | | Cartographic | 4,070,000 | |
| | | Printing | 1,350,000 | |
| | | Total 1974 | | 6,537,100 |
| 1975 | 150 | Editing and technical review | 967,100 | |
| | | Cartographic | 3,626,700 | |
| | | Printing | 1,350,000 | |
| | | Total 1975 | | 5,943,800 |
| 1976 | 150 | Editing and technical review | 817,100 | |
| | | Cartographic | 2,783,300 | |
| | | Printing | 1,350,000 | |
| | | Total 1976 | | 4,950,400 |
| | 763 | Grand Total, 1970-76 ----- | | 33,830,600 |
| | | (7 Years) | | |
| | | Average cost per Survey----- | | 44,338 |

Includes customary overhead charges.

TABLE 2.

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WORK SHEET--COST ESTIMATES FOR COMPLETING AND PUBLISHING SOIL SURVEYS--
 CONVENTIONAL MAP MANUSCRIPT COMPILATION
 --10-YEAR SCHEDULE--

| Cal Yr. | Number of Publications | Kind of Work | Cost of Work* | Totals |
|---------|------------------------|------------------------------|---------------|------------|
| | | | Dollars | Dollars |
| 1970 | 48 | Editing and technical review | 518,100 | |
| | | Cartographic | 1,637,900 | |
| | | Printing | 432,000 | |
| | | Total 1970 | | 2,588,000 |
| 1971 | 60 | Editing and technical review | 667,100 | |
| | | Cartographic | 1,982,200 | |
| | | Printing | 540,000 | |
| | | Total 1971 | | 3,189,300 |
| 1972 | 80 | Editing and technical review | 787,100 | |
| | | Cartographic | 2,376,000 | |
| | | Printing | 720,000 | |
| | | Total 1972 | | 3,883,100 |
| 1973 | 90 | Editing and technical review | 787,100 | |
| | | Cartographic | 2,726,900 | |
| | | Printing | 810,000 | |
| | | Total 1973 | | 4,324,000 |
| 1974 | 100 | Editing and technical review | 767,100 | |
| | | Cartographic | 3,091,000 | |
| | | Printing | 900,000 | |
| | | Total 1974 | | 4,758,100 |
| 1975 | 125 | Editing and technical review | 817,100 | |
| | | Cartographic | 3,616,200 | |
| | | Printing | 1,125,000 | |
| | | Total 1975 | | 5,558,300 |
| 1976 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 3,616,200 | |
| | | Printing | 1,125,000 | |
| | | Total 1976 | | 5,433,300 |
| 1977 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 3,616,200 | |
| | | Printing | 1,125,000 | |
| | | Total 1977 | | 5,433,300 |
| 1978 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 3,079,400 | |
| | | Printing | 1,125,000 | |
| | | Total 1978 | | 4,896,500 |
| 1979 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 2,498,600 | |
| | | Printing | 1,125,000 | |
| | | Total 1979 | | 4,315,700 |
| | 1,003 | Grand Total, 1970-79 | | |
| | | (10 Years)----- | | 44,379,600 |
| | | Average cost per Survey | | 44,246 |

Includes customary overhead charges.

TABLE 3.

141-12

WORK SHEET--COST ESTIMATES FOR COMPLETING AND PUBLISHING SOIL SURVEYS
 USING ADVANCE MAPPING SYSTEMS (AMS)
 --7-YEAR SCHEDULE--

| Cal Yr. | Number of Publications | Kind of Work | Cost of Work* | Totals |
|---------|------------------------|------------------------------|-------------------------|------------|
| | | | Dollars | Dollars |
| 1970 | 48 | Editing and technical review | 518,100 | |
| | | Cartographic | 1,867,900 ^{1/} | |
| | | Printing | 432,000 | |
| | | Total 1970 | | 2,818,000 |
| 1971 | 60 | Editing and technical review | 667,100 | |
| | | Cartographic | 2,310,900 ^{2/} | |
| | | Printing | 540,000 | |
| | | Total 1971 | | 3,518,000 |
| 1972 | 80 | Editing and technical review | 787,100 | |
| | | Cartographic | 3,510,000 ^{3/} | |
| | | Printing | 720,000 | |
| | | Total 1972 | | 5,017,100 |
| 1973 | 125 | Editing and technical review | 1,067,100 | |
| | | Cartographic | 3,358,300 | |
| | | Printing | 1,125,000 | |
| | | Total 1973 | | 5,550,400 |
| 1974 | 150 | Editing and technical review | 1,117,100 | |
| | | Cartographic | 3,513,400 | |
| | | Printing | 1,350,000 | |
| | | Total 1974 | | 5,980,500 |
| 1975 | 150 | Editing and technical review | 967,100 | |
| | | Cartographic | 3,070,100 | |
| | | Printing | 1,350,000 | |
| | | Total 1975 | | 5,387,200 |
| 1976 | 150 | Editing and technical review | 817,100 | |
| | | Cartographic | 2,317,900 | |
| | | Printing | 1,350,000 | |
| | | Total 1976 | | 4,485,000 |
| | 763 | Grand Total, 1970-76 | | |
| | | (7 Years)----- | | 32,756,200 |
| | | Average cost per Survey----- | | 42,930 |

Includes customary overhead charges.

Includes \$230,000 for AMS equipment.

Includes \$143,000 for AMS equipment.

Includes \$573,000 for AMS equipment.

TABLE 4.

1191213

WORK SHEET FOR ESTIMATING COSTS OF COMPLETING AND PUBLISHING SOIL SURVEYS
USING ADVANCE MAPPING SYSTEMS (AMS)

--10-YEAR SCHEDULE--

| Fiscal Yr. | Number of Publications | Kind of Work | Cost of Work* | Totals |
|------------|------------------------|------------------------------|-------------------------|------------|
| | | | Dollars | Dollars |
| 1970 | 48 | Editing and technical review | 518,100 | |
| | | Cartographic | 1,867,900 ^{1/} | |
| | | Printing | 432,000 | |
| | | Total 1970 | | 2,818,000 |
| 1971 | 60 | Editing and technical review | 667,100 | |
| | | Cartographic | 2,126,100 ^{2/} | |
| | | Printing | 540,000 | |
| | | Total 1971 | | 3,333,200 |
| 1972 | 80 | Editing and technical review | 787,100 | |
| | | Cartographic | 2,912,700 ^{3/} | |
| | | Printing | 720,000 | |
| | | Total 1972 | | 4,419,800 |
| 1973 | 90 | Editing and technical review | 787,100 | |
| | | Cartographic | 3,055,800 | |
| | | Printing | 810,000 | |
| | | Total 1973 | | 4,652,900 |
| 1974 | 100 | Editing and technical review | 767,100 | |
| | | Cartographic | 2,725,000 | |
| | | Printing | 900,000 | |
| | | Total 1974 | | 4,392,100 |
| 1975 | 125 | Editing and technical review | 817,100 | |
| | | Cartographic | 2,839,700 | |
| | | Printing | 1,125,000 | |
| | | Total 1975 | | 4,781,800 |
| 1976 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 2,839,700 | |
| | | Printing | 1,125,000 | |
| | | Total 1976 | | 4,656,800 |
| 1977 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 2,839,700 | |
| | | Printing | 1,125,000 | |
| | | Total 1977 | | 4,656,800 |
| 1978 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 2,522,900 | |
| | | Printing | 1,125,000 | |
| | | Total 1978 | | 4,340,000 |
| 1979 | 125 | Editing and technical review | 702,100 | |
| | | Cartographic | 2,034,100 | |
| | | Printing | 1,125,000 | |
| | | Total 1979 | | 3,851,200 |
| | 1,003 | Grand Total, 1970-79 | | |
| | | (10 Years)----- | | 41,902,600 |
| | | Average cost per Survey----- | | 41,777 |

Includes customary overhead charges. 1/ Includes \$230,000 for AMS equipment.

Includes \$143,000 for AMS equipment. 3/ Includes \$573,000 for AMS equipment.

TABLE 5.
CARTOGRAPHIC WORK REQUIREMENTS FOR FOUR PLANS, BY YEARS

| Year | 7-Yr. Schedule (Conventional) | 10-Yr. Schedule (Conventional) | 7-Yr. Schedule (AMS) | 10-Yr. Schedule (AMS) |
|---------------------------------|--|--|--|--|
| | <u>Man-years</u> | <u>Man-years</u> | <u>Man-years</u> | <u>Man-years</u> |
| 1970 | 123.6 | 123.6 | 123.6 | 123.6 |
| 1971 | 125.2 | 113.5 | 124.6 | 112.9 |
| 1972 | 160.5 | 130.5 | 130.2 | 136.2 |
| 1973 | 196.6 | 149.5 | 187.5 | 145.1 |
| 1974 | 213.9 | 165.8 | 224.4 | 172.2 |
| 1975 | 185.4 | 182.9 | 195.9 | 189.3 |
| 1976 | 158.8 | 182.9 | 150.4 | 189.3 |
| 1977 | | 182.9 | | 189.3 |
| 1978 | | 162.9 | | 169.3 |
| 1979 | | 143.9 | | 135.5 |
| 1980 | | 102.9 | | 100.7 |
| | | | | |
| | 1164 Man-yrs. Carto. Time | 1538 Man-yrs. Carto. Time | 1137 Man-yrs. Carto. Time | 1563 Man-yrs. Carto. Time |
| | 1638 Man-yrs. Total time (including soil scientists' time used for map manuscript compilation) | 2149 Man-yrs. Total time (including soil scientists' time used for map manuscript compilation) | 1417 Man-yrs. Total time (including soil scientists' time used for map manuscript compilation) | 1827 Man-yrs. Total time (including soil scientists' time used for map manuscript compilation) |
| total number of publications | 763 | 1,003 | 763 | 1,003 |

Summary and Recommendations

1. Soils Memoranda 70 and 71 will start the speed-up of completion and publication of soil surveys.
2. Additional efforts must be made to improve the scientific quality of soil survey manuscripts so that the publications are better and so that editing time and costs can be reduced sharply.
3. More specific guidelines must be provided for authors.
4. More rigorous technical reviews of manuscripts must be provided by state offices and RTSC Soil Survey staffs. This will doubtless require a small increase in the principal soil correlators' staffs by permanent appointment and by details of skilled soil scientists from the states. It will also require a small staff increase in the Hyattsville Soil Survey Manuscript Office.
5. Increased editorial capability must be sought outside the Service. As of now, the most likely place to find this capability is in the agricultural experiment stations.
6. Contributions and cost-sharing arrangements should be sought to make possible the editing of more manuscripts, particularly those in the present backlog.
7. Field mapping and map manuscript compilation both will benefit by use of atlas sheets instead of the traditional field sheets in field mapping.
8. For the moment and for some time to come, map manuscript compilation will have to be aided by people in the states. Gradually, this activity should be shifted back to Cartographic as the Advance Mapping Systems (AMS) come into effect.
9. Every effort should be made to exploit the advantages of offset lithography and cold-type composition for the printing of texts of the soil surveys. At the moment it is very difficult to estimate how much acceleration of publication can be accomplished by this means.
10. At the end of the acceleration periods (1976 and 1979) the publication rate would drop back to the projected completion rate of 65 surveys per year. By this time improved efficiency will have reduced the manpower and money inputs required for completion, including printing. The estimated completion costs in subsequent years are:

Kenneth E. Grant

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\$42,220 per survey using the conventional map
compilation method.

\$35,050 per survey using Advance Mapping
Systems (AMS).

11. The 7-year schedule using AMS offers the best means of
gaining balance between field mapping and publication in
the shortest time with the least total cost and least
increase in Service manpower.

William M. Johnson
Assistant to the Deputy Administrator
for Soil Survey

Sunday, November 2, I worked on this very bad paper some more, raked leaves for 2 or 3 hours, and finished going over the so-called planning guide in the evening.

Monday, November 3, was the beginning of a week of meetings with the four principal correlators, the three laboratory heads, and most of the directors and assistant directors.

On the whole the meetings went well. During the week we covered both current and long-range problems in soil classification, interpretations, research, and especially the urgent problem of catching up on our soil surveys.

In the evening of November 3 I went over a paper that Roy Hockensmith was planning to use at the FAO conference on soil conservation at Buenos Aires. This had been put together for him by some people in Information. This was very badly organized and worded for the purpose so he, Mrs. Colton, and I had to rewrite essentially all of it.

Tuesday, November 4, I went into my office. After dealing with the urgent mail I went up to see Mr. Davey and explained to him as tactfully as I knew how why this planning handbook was completely unsatisfactory. I doubt that he was surprised. I brought him two items to read about the principle of interactions and explained several other principles. At his suggestion I dictated a long memo covering the principles that had been omitted and discussed a few examples of the bad choices of words and confusing grammar. (Copy attached)

That evening the principal correlators, except for Mel Williams, Johnson, Flack, Grossman, Mrs. McClelland, and Mrs. Johnson were at our home for dinner. It was a pleasant evening.

The next day, November 5, I spent at Hyattsville with the principal correlators and directors on our progress of plans for use of electronic data processing. In the afternoon we had a good tour of the national cartographic unit.

1142a

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

November 4, 1969

FROM: National Handbook for Resource
Conservation Planning

TO: William B. Davey
Deputy Administrator for Field Services

I read the document attached to your memorandum of October 28 mainly over the weekend since I am either engaged in conferences here or on field visits for the remainder of this week and next week.

In line with your suggestion, we are asking Mr. A. A. Klingebiel to work with your staff. Yet there are several highly important basic principles that I should like to call to your attention in this memorandum.

Perhaps of first importance is the fact that few of the basic principles in planning in rural areas are explained or even mentioned in the manual, and I think it is important that they be summarized in it somewhere. Some of these are as follows:

1. The application of the principle of interactions: To have success in either conservation or production on most soils, we must use a combination of practices fitted to each other and to the local kind of soil. In the first place, think of fields: To give a good harvest for the labor and inputs four primary conditions must be satisfied: (1) a balanced supply of nutrients, (2) water and air in the rooting zone as the plants require them, (3) a variety of crop with the genetic ability to respond to the best conditions it is practicable to develop, and (4) practices to control diseases, insects, weeds, and other pests (including those that influence any domestic animals in the field).

Now to these basic ones, of course, we can add protection against strong winds and from the sea and torrents.

At the farm level the use of any one field depends on the potential uses of the other fields. On livestock farms we must consider the balance of forage and grain. On other farms we need to consider the balance between food crops for local sale and crops for shipment--both food crops and industrial crops.

At the trade-area level we need to consider the industrial and financial facilities, such as storage, marketing, reasonable supplies of chemicals of all sorts used on farms, machines for purchase and repair services, banks, and so on.

2. The intimate relationship between country towns and the farmers is not mentioned. Yet they share common services for transport, schools, and all the rest--what the economists call the "infrastructure." These relationships are extremely important in many watersheds and especially in the RC&D projects. The trade area may have soils highly suited to strawberries, blueberries, vegetables, pulpwood, and other crops, but unless a suitable processing and marketing facility is available, no advantage can be taken of these potentials. One might add parenthetically "agricultural land" includes the land used for stockyards, fertilizer factories, food processing plants, experimental stations, and even the land that the South Building of the Department of Agriculture occupies. We should not use this word just for farmland and cropland. These are two good terms and are much more specific.

3. I found no reference in this manuscript to the highly important concept of the "multiplier factor" that is so important to the success of both private and public investments in rural areas. As jobs are created in agri-business or other kinds of business as a result of our work, the affect multiplies throughout the community. It is not a matter of just considering the direct benefits, or even the secondary benefits. We must consider the economic affect in the trade area of the improvements that create jobs. These, in turn, create other jobs and raise the opportunities for farmers and foresters as well as labor.

4. We should also recognize the importance, especially when working with towns, of not using all the acres that are suitable for highways, houses, and all the rest. We should emphasize the leaving of some open space, beyond that needed for recreation and beautification, else the present local planning board ties the hands of their successors as the economy and population grows.

5. In helping people to plan we must, of course, start where the people are, not where we wish they were. This has a large educational implication for which we need the close cooperation of schools and colleges. Not once in the manuscript did I see any reference to the enormous role of the state college of agriculture and especially the state agricultural experiment station. They too have responsibilities in the state for research on critical problems and for getting these results out to people needing them through the Extension Service and also through appropriate bulletins.

6. I found throughout a considerable lack of appreciation of the main purposes of the National Cooperative Soil Survey. This, as you know, is cooperative with all of the state agricultural experiment stations as well as with some other state and local agencies. It is largely from the experiment stations that we have the data essential for making farm and other interpretations of the various kinds of soil. It is because we have a national system of soil classification that firm data and statements of alternatives can be based on the research done throughout the country. (We even get considerable helpful data from experimental institutes overseas to the extent that they are doing worthwhile research on kinds of soils that we have in this country.) It is through the national system of soil classification and soil maps that we can make suggestions for one farm based on experience on another. We can transfer knowledge from one county to another and from one state to another. It is utterly unthinkable to carry on the volume of research required in each county or even within each state.

Further, there is not nearly enough emphasis on the use of our published soil surveys. New data are coming all the time related to the kinds of soil named and shown on these maps. It is highly important that the Service people show those with whom they work how to use these soil surveys and to use the many other bulletins from the colleges and elsewhere as they add additional information about the adaptability to specific kinds of soil, of new practices, new crops, new machines, and all the rest. In this sense I can assert that one of our biggest obligations and opportunities is to show the people how to use technical material so that when they have new problems they do not need to go to a bureaucrat. The more they can figure out what to do themselves, the better.

In the manual, as it stands, there is great overemphasis of the "capability system," which is more generalized than the individual soil mapping units and which applies only to the common field crops. These groupings are not applicable for special crops or horticultural crops, trees, or range plants. Especially they have little or no relevance to housing, structures for water control, and all the others that we lump into "engineering practices." Many of our so-called "Class I" soils are unsuitable for many horticultural crops and unsuitable for housing. I might add here that this needs much emphasis because some planners have written articles suggesting that in suburban development people use this "capability grouping" for selecting house sites. This is most unfortunate because where this has been done, many houses have been utter failures.

This also emphasizes the great need to bring our publication of soil surveys current with the mapping as soon as this can be done practicably.

7. Much is made here and there of rural zoning, land-use regulations, and tax appraisals. It should be pointed out, since some do not realize it, that no agency of the Federal Government has any authority from the Constitution of the United States, through the tax power or police power, to influence the use of private land. All of these authorities are reserved to the states who may delegate them to cities and counties. At least one state has delegated these powers with the provision that if the local governments do not act, the state itself will act as, for example, in flood-plain zoning.

The manual does not make clear that these laws and regulations vary considerably between states and that statute laws, and even common law, varies among states.

Now I realize that we can and do furnish very important data that bear on rural zoning, land-use regulations, and tax appraisal. It is highly important that we recognize our responsibilities to know something about the law and that we give considerable training in the use of these materials to state and local officials authorized to carry on these activities. Many of our people realize this but a great many do not.

I hope that much can be done to improve the writing. Despite these serious omissions that I have mentioned, the manuscript is extraordinarily repetitive. This suggests that the outline is inadequate. Many sentences and paragraphs are repeated again and again.

Then too, I find several serious difficulties with the language. Some of these cannot be left to the editors because of ambiguities. For example, the word "involved" is used repeatedly. Sometimes I could see it meant only "include" and in other places I could not hazard a guess as to what was intended. It is a kind of "catch-all" word that may save thought on the part of the writer but confuses the reader. It would be helpful to eliminate it completely and write precisely what is intended.

To a slightly less extent the same may be said about the word "total."

Perhaps this is a personal feeling, but I enormously dislike the phrase "SCS personnel." "Personnel" is a dead expression and extraordinarily vague except as meaning little holes in some kind of chart. We have many alternatives to this bad word, such as scientists, engineers, technicians, employees, conservationists, soil scientists, and so on. Perhaps best of all is the simple word "people."

There are a host of cliches that do not help. Some of these are put forward very dogmatically as if they were a part of the Ten Commandments. I should say that chapter 6 is especially bad. Just as an example, "Planning is not an academic exercise. It involves time, money, and hard work." I doubt that anybody gets much out of such a dogmatic and negative statement. It certainly does require knowledge, much of which has been learned in universities and experimental stations. But it does not say anything about what planning is. Harvesting trees takes time, money, and hard work too.

And here's another one. "The same planning steps are needed whether dealing with the field, farm, neighborhood, town, county, state, or region." Whoever believes this is going to get himself into a great deal of trouble. There are very important differences.

The manual says quite a bit about "SCS information." The people in SCS learn a lot from experience and many of them learn quite a bit in college. Those who keep up with the literature get a lot from the experiment stations and other research institutes. This sentence is not clear.

Another trouble is the overuse of the word "case," especially the plural form as "in many cases." This is a vague expression. Lawyers and doctors have "cases" but I do not believe the SCS has any.

I know that some people are prepared to defend split infinitives and other departure from good grammar. Yet, when we write something of this sort, we are trying to influence people to do something in a certain way, or to take a certain point of view. The educated reader is highly irritated by such common errors in writing. They get in his way and they take his mind off the subject.

Another vague, undefined word for which we have no need is "overall." This one is an example of a bad word hard for the editor to deal with because he probably will not know what was meant by the author.

There is also some difficulty with the intended meaning of such words as "conserve" and "conservation" as applied to farmlands. In a great deal of the United States if farmers are going to have yields that return reasonable labor incomes, the soil must be considerably improved over what it was in the natural state, through fertilizers, water control measures, and so on.

And it seems to me that there is considerable overuse of the word "problem." In planning we do deal with some kinds of problems, yet generally we are trying to help people realize the potentials with their soil and water resources on a sustained basis even though there are no dramatic "problems."

In several places I found this expression "USGS (topographic) maps." This is confusing perhaps because the U.S. Geological Survey gets out many other kinds of maps besides topographic maps. They do get out most, but not all, of the topographic maps.

One finds this kind of sentence "The need for special or additional surveys of various kinds may be apparent." It is difficult to understand without any hint of what sorts of maps are in mind.

I should add here, too, that a large part of the important information from the soil survey is not shown on maps.

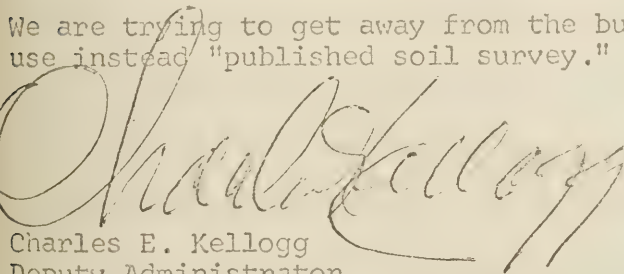
Also on the discussion of maps, it would be well to add something about the need for planning soil surveys well in advance, including the whole process through publication, especially where there is local cost sharing.

One important reason for consulting the cartographic people is not simply to plan the work. They do have extensive files of existing maps that may obviate the need for some special map.

In some of the brief references to wildlife it should be pointed out that now soil surveys are being interpreted according to their potential for wildlife habitat. Some excellent wildlife areas have been developed from old fields. This is especially important in crowded areas needing recreation. Because the soil is not now growing the things needed is no sign at all that excellent wildlife areas could not be developed.

I urge that you discuss with Mr. Korchley or some of his people your references to "ozalid maps and the like." This field of quick map reproduction is rapidly changing.

We are trying to get away from the bureaucratic word "report" and use instead "published soil survey."



Charles E. Kellogg
Deputy Administrator
for Soil Survey

cc:
A. A. Klingebiel

Thursday, November 6, we continued the conference at Hyattsville. In the early forenoon Grant called Johnson and said that the Secretary would not go along with the plan suggesting 7 years to get caught up with soil survey publication -- that we would have to move much faster. He suggested 3 years, which Bill explained would be impossible. Apparently Hardin was really bearing down. So Johnson went ahead with the men in cartographic and editorial units to develop a five-year program that would require a considerable increase in funds and staff.

Friday, November 7 the conference was concluded with particular attention to the integration of correlation work and laboratory work. Some suggestions from Europe about small changes in the system were discussed.

Saturday, November 8, Mommy and I raked leaves in the rain for over 2 hours and then gave up in favor of reading and some inside work.

After lunch on Sunday, November 9, Mommy took me to Friendship and I went by plane to Detroit for the meetings of the Soil Science Society of America. I registered in the late afternoon and attended the banquet for "administrators" which turned out to be quite dull.

On Monday, November 10, I looked at the books on display in the morning, particularly to be that Jurion's book was there.

I first went to the meeting of Section V and then went to the program on extension education. The papers by the Wisconsin group were fine. They had a good discussion on the "package" program.

In the afternoon I went to the program on soil genesis and classification. Arkley of California had a rather poor paper on classification, but there were several good ones, including one by Parsons and one by Framzmeier. I also liked the one given by Protz of Guelph.

In the evening I had a long talk with Matt Drosdoff that made me a little late to bed.

Nov. 1969

The following day I attended the program on graduate teaching. This was mostly pretty bureaucratic and I raised several questions, including the need to work out thesis subjects so that two or three men could get their degrees on a single thesis and learn thereby the principles of interdisciplinary research. Then too, I argued against the suggestions of reducing the language requirement. Instead I think it should be strengthened so that in graduate departments a part of the seminars would be in the French language.

At noon I went to the annual luncheon of the Soil Science Society, which was not very good. After that I attended the general meeting of the Agronomy Society, which was very poor. A speaker by the name of King was billed to talk about human nutrition, but he spoke about the age of the earth and man. He made a statement that the earth was 3.6 million years old! Recently, after the last moon show, the papers were full of the fact that both the earth and the moon were about 4.6 billion years old. I told the secretary that he had better get this thing reviewed before it was printed in any journal.

Cecil Wadleigh made an excellent talk on soils and pollution.

In the evening the Michigan people had a very good program on planning in the Detroit area. As usual I met and chatted with many graduate students and with many old friends.

On Wednesday the 12th, I had breakfast with Dr. Muckenhirn and had lunch with Dr. Lewis Nelson. And I attended the sessions on soil classification. Smack of Illinois had a good paper and Whiteside had a good one on Honduras.

In the evening I went to the much crowded banquet of the Agronomy Society. It turned out to be very long and very boring.

Nov. 1969

On Thursday I first got my ticket changed to go home Friday morning early rather than later. In the morning I attended an excellent session on land use and management. One speaker, George Ferguson of USGS, made an excellent statement something like the following: "Sediment comes from many local political areas. But once sediment is in the stream, it is said to be a public problem and in this way responsibility is avoided."

Don McCormick of Ohio made a good talk in this session. The last one, by the man from the Army Corps of Engineers was utterly useless. But that was the way things went.

After these sessions I had a little lunch and took a long walk to liven me up. I stopped in W. H. Hudson store and went to the book section. They had for sale a book identical, except for the number, that I have in my library -- a special limited edition of Barrie's Quality Street. They had it priced at \$155 and I had it from my bookseller in London for \$35.00!

At dinner I had a nice conversation with a young man at Rutgers, Dr. H. P. Hermanson. (Later Klaus Flack called me to say that I should not be overimpressed by this young man. He said he was good only with close supervision.)

I got up early the morning of November 14, checked out, and took the 6:40 a.m. bus to the airport. I was in Friendship airport at 9:50 and home about 11:00.

I raked leaves until it rained in the middle of the afternoon and then caught up a bit with the magazines and so on.

Saturday, November 15, I started raking leaves about 7:15. Mommy helped and by 3:30 we had them pretty well cleaned out of the shrubs in the back as well as the front.

Sunday, the next day, was spent mostly in reading and resting.

Monday, November 17, I went to the office for the first time since November 4. The accumulation on my desk was unbelievable but nothing too serious that had to be dealt with.

The telegrams from the FAO conference in Rome showed that the UK, France, and the US, who put up about one-half or more of the funds for FAO were unsuccessful in stopping an increase. As these votes turned out the US Government hurt itself badly by opposing the budget to the last, for only \$60,000.

The next day a free-lance writer named Pfeiffer took most of my forenoon with an enormous number of questions about soils and plants all the way from the Arctic to the Tropics.

Most of the rest of the week was spent on correspondence and memos including the last draft, I hoped, of the manual for authors of published soil surveys. I had this nearly finished by noon on Friday, the 21st. But in the afternoon I went to our office in Hyattsville on scheduling.

At lunch one day that week I passed Tom Cowden's table and quietly thanked him for his help on the Soil Survey.

During the week I did bring out the materials I worked up last year for Carl Dorny to receive the Distinguished Service Award. I sent these in to Ken Grant for any suggestions he might have.

Saturday, November 22, was very cold. Mommy and I took the leaves out of the gutters and off the roof and trimmed the ivy on the house.

Sunday, November 23, we about cleaned up leaves as much as we could do until the neighbors got rid of theirs. The Dykes came and we went inside for tea for about an hour and stopped about 1:30 for the day.

Monday, November 24, I went to the office and found that a conference was scheduled at 10:00 on Secretary Hardin's program for rural development.

7/24/1941

I hastened to dictate a cryptic one-page summary of the concept of "town- and country-planning." Fortunately I was able to sell this as the heart of the Service suggestion. Certainly, the Secretary and his staff should understand that in this area one cannot improve opportunities for rural people without viable local towns or cities.

I also took a copy of this in to Ray Heinen in the hope that he could get it adopted as a resolution by the National Association of Soil Conservation District Supervisors. To get one approved it first must be adopted by a state association. Sasser called me the next day and said that he would be able to do it.

We also forwarded to Ken Grant a detailed statement for printing the backlog of soil surveys within five years. (Copy attached) The prospect for this looked better because the appropriation bill for USLA was a bit higher for the Service as a whole than we had hardly dared hope.

Wednesday, November 26, I had a few conferences and then cleaned up the pending correspondence and other items on my desk.

November 27, Thanksgiving Day, Mommy and I left for Charlottesville along with Mary Alice, Stephanie and Randall. Fortunately it was a nice day. About 10:00 Mommy took Shem and Mary Alice' Kitty to the vet where they could stay the next two nights. During the stay Shem was to have his teeth cleaned. So we got on the road about 10:15 and arrived at Charlottesville at 12:45. Dinner came at 4:00 and we talked until nearly 1:00 a.m.

The next forenoon Robert took me to his university office in a new building and I had a most pleasant conference with a young professor and Joyce scholar, Dr. Phillip F. Herring. A few others came in and left from time to time. Herring seems like a very nice boy but a little bit narrow and uncertain. He reminded me a good deal of Fritz Senn, a good friend of both of us.

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

1147a

ECT: SOILS - Publications - Five-Year Plan to Reach DATE: November 25, 1969
Balance Between Rates of Soil Mapping
and Soil Survey Publication

TO: Kenneth E. Grant, Administrator

On 6 November you asked me to revise the plan for accelerated publication of soil surveys and reduce to the minimum the time required for overcoming the backlog. I believe that it is impractical to attempt this in less than five years (counting the present one) for reasons I gave you earlier.

Starting with the 375 surveys that made up the backlog on 1 July 1969 and adding 325 more (5 x 65) that will be mapped during the 5-year period 1970-1974 gives a total of 700 surveys. As I wrote before, we must keep a small backlog for efficient cartographic and editorial operations. In the tables and discussion that follow, we have assumed a continuing backlog of 40 surveys. Thus, we need to publish a total of 660 surveys during the 5-year period. We have planned to distribute the publications over the five years according to this schedule:

| | |
|---------|------------|
| FY 1970 | 50 surveys |
| FY 1971 | 60 " |
| FY 1972 | 120 " |
| FY 1973 | 200 " |
| FY 1974 | 230 " |

With about current funding in FY 1975 and succeeding years we would publish about 65 surveys a year, the projected rate at which the mapping of survey areas will be completed.

The five-year plan includes the timetable given above, a statement of costs broken down by activities, and a statement of manpower requirements for cartographic work and for technical review and editing of manuscripts. We do not propose to increase the editorial staff of SCS to do any more "in-house" editing, but a statement is given that explains the savings that could be made by doing so. Neither do we request equipment and manpower to take over all of the printing of soil surveys, although that would save some money and quite a lot of time. Included in this memo is a statement about "in-house" printing, what it would cost, what it would save, and the obstacle that makes it unlikely we can be authorized to do it.

Table 1 summarizes the timetable and cost estimates. Table 2 summarizes the manpower needs for cartographic work in Cartographic Units and the states. Table 3 gives manpower needs for technical review and editing of manuscripts in Hyattsville and the RTSC's.

Cartographic Work

The five-year accelerated program is based on a substantial amount of map manuscript compilation in the states, as detailed in Soils Memorandum-70. Another memorandum from the Administrator is needed that gives the schedule of needs for map manuscript compilation in the states. This is the schedule:

| | | | | | | |
|------------|---|-----|-----------------------------------|---|---|---|
| In FY 1970 | - | 12 | survey compilations in the states | | | |
| In FY 1971 | - | 100 | " | " | " | " |
| In FY 1972 | - | 100 | " | " | " | " |
| In FY 1973 | - | 130 | " | " | " | " |
| In FY 1974 | - | no | " | " | " | " |

According to the plan, by use of Advance Mapping Systems (AMS), Cartographic will gradually take over the map manuscript compilation operation and by the end of FY 1973 will be able to handle the entire task.

Currently the Cartographic Division has immediate need for:

- (a) The names of 35 more surveys for publication in FY 1972, so that preliminary cartographic work can be started on them this year;
- (b) About \$60,000 with which to contract for high-altitude aerial photography for the additional 35 surveys that must be sent to the printer in FY 1972 in order to maintain the schedule of the five-year plan; and
- (c) Commitment of \$469,000 for Advance Mapping Systems equipment to be ordered in FY 1970, orders and delivery to be according to this schedule:

\$150,000 for equipment to be ordered 1 Jan. 1970,
delivered April 1970.

\$100,000 for equipment to be ordered 1 Mar. 1970,
delivered July 1970.

\$219,000 for equipment to be ordered 1 May 1970,
delivered Aug. 1970.

Kenneth E. Grant

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This schedule will delay expenditure to FY 1971 of all but \$150,000 of these orders.

The Cartographic Division will also need \$469,000 for AMS equipment orders in FY 1971, but a considerable part of this outlay would be for delivery in FY 1972, so that expenditures in FY 1971 would be reduced.

Because the work in Cartographic Units includes a number of Wage Board employees it is necessary to keep in mind that those employees are paid by different rules than Civil Service employees. Wage Board employees receive periodic pay adjustments for which SCS does not receive additional money allocations. Therefore cartographic cost increases may exceed the allowance assumed for general cost increases.

Table 1.--Cost Estimates for Completing and Publishing Soil Surveys
Using Advance Mapping Systems (AMS)--5-Year Schedule

| Fiscal Yr. | Number of Publications | Kind of Work | Cost of Work ^{2/} | Totals |
|------------|------------------------|------------------------------------|----------------------------|-------------------------|
| | | | Dollars | Dollars |
| 1970 | 50 ^{1/} | Technical review | 132,600 | |
| | | Editing | 514,000 | |
| | | Cartographic ^{4/} | 2,369,800 ^{3/} | |
| | | Printing | 396,000 | |
| | | Total 1970 | | 3,412,400 |
| 1971 | 60 ^{1/} | Technical review | 198,000 | |
| | | Editing | 704,000 | |
| | | Cartographic ^{4/} | 3,738,200 ^{3/} | |
| | | Printing | 594,000 | |
| | | Total 1971 | | 5,234,200 |
| 1972 | 120 | Technical review | 224,600 | |
| | | Editing | 1,471,500 | |
| | | Cartographic ^{4/} | 4,380,200 | |
| | | Printing | 1,080,000 | |
| | | Total 1972 | | 7,156,300 |
| 1973 | 200 | Technical review | 251,200 | |
| | | Editing | 2,279,000 | |
| | | Cartographic ^{4/} | 4,474,800 | |
| | | Printing | 1,800,000 | |
| | | Total 1973 | | 8,805,000 |
| 1974 | 230 | Technical review | 258,100 | |
| | | Editing | 2,484,000 | |
| | | Cartographic | 2,335,800 | |
| | | Printing | 2,070,000 | |
| | | Total 1974 | | 7,147,900 |
| | 660 | Grand Total, 1970-74 (5 yrs.)----- | | 31,755,800 |
| | | Average cost per year----- | | 6,351,160 ^{5/} |

Actually, we expect only 44 surveys to go to GPO for printing in FY 1970, but contract editing and cartographic work going on this year will make it possible to print 66 surveys in FY 1971. Thus, the 2-year goal of publishing 110 surveys remains unchanged.

Includes customary overhead charges and travel allowances for supervisory staff.

Includes \$469,000 for AMS equipment.

Cartographic costs include costs to the states for map manuscript compilation in fiscal years 1970, 1971, 1972, and 1973. In 1974 and succeeding years all map manuscript compilation is to be done in Cartographic Units.

This is about double the amount of money set aside in the FY 1970 budget for completion (including publication) of soil surveys.

Table 2.--Estimates of Manpower Needs for Cartographic Work in
Cartographic Units and the States, FY 1970-1974
Using Advance Mapping Systems (AMS)

| Fiscal Yr. | Number of Publications | Manpower Requirements | | |
|--------------------|---------------------------|-----------------------|------------------|------------------|
| | | Carto. Division | States | Total |
| | | <u>Man-years</u> | <u>Man-years</u> | <u>Man-years</u> |
| 1970 | 50 | 138.0 ^{1/} | 8.4 | 146.4 |
| 1971 | 60 | 165.7 | 70.0 | 235.7 |
| 1972 | 120 | 246.1 | 70.0 | 316.1 |
| 1973 | 200 | 255.0 | 91.0 | 346.0 |
| 1974 | 230 | 213.5 | 00.0 | 213.5 |
| 1975 ^{2/} | 65 | 100.7 | 00.0 | 100.7 |

^{1/} Approximately current employment plus vacancies.

^{2/} The 1975 estimates are given to show how manpower requirements drop sharply at the end of the 5-year accelerated program.

able 3.--Estimates of Manpower Needs for Technical Review, Editing, and Supervision of Contract Editing of Soil Survey Manuscripts, FY 1970-1974

| iscal Yr. | Number of Publications | Manpower Requirements for Technical Review | | Manpower Requirements for Editing | |
|-----------|------------------------|--|------------------|-----------------------------------|------------------|
| | | At Hyattsville | At RTSC's | At Hyattsville | At RTSC's |
| | | <u>Man-years</u> | <u>Man-years</u> | <u>Man-years</u> | <u>Man-years</u> |
| 1970 | 50 | 6 | 4 | 37 | 0 |
| 1971 | 60 | 7 | 8 | 37 | 2 |
| 1972 | 120 | 9 | 8 | 37 | 10 |
| 1973 | 200 | 11 | 8 | 37 | 32 |
| 1974 | 230 | 12 | 8 | 37 | 44 |
| 1975* | 65 | 7 | 4 | 37 | 8 |

1975 estimates given to show how manpower requirements drop sharply at the end of the 5-year accelerated program.

Printing Soil Surveys in Carto

Printing costs given in Table 1 are based on the assumption that we continue sending all surveys to GPO for printing and binding, at an average cost of \$9,000 per survey. As I wrote on 31 October, the Cartographic Division has the knowledge and skills to do all of this printing in our own shops, but it will require more and larger presses and more people in the Division. If Cartographic were authorized and funded to buy the needed equipment for printing and the Information Division authorized and funded to rent the MT/ST typewriters for cold-type composition, we could compose and print all of the soil surveys in the five-year plan in FY 1971 and succeeding years, at the following costs:

| | |
|---------|-----------|
| FY 1971 | \$630,200 |
| FY 1972 | 924,900 |
| FY 1973 | 1,396,600 |
| FY 1974 | 1,561,500 |
| FY 1975 | 449,200 |

These costs, you will note, are significantly lower than the GPO costs for the same amount of printing. Assuming that we could have the cartographic and clerical specialists needed, there is still the question of approval to purchase the larger presses. Generally the Joint Committee on Printing and Binding has not been sympathetic to our requests for larger, more sophisticated presses. I attach copies of 1969 correspondence with the Joint Committee that illustrates this difficulty. Even if we continue to send the printing and binding work to GPO we may want to do all or part of the composition in SCS shops, using magnetic-tape typewriters. This will require additional typists and additional space (the editorial offices in Hyattsville cannot accommodate more people and machines). We probably would not reduce our costs much by this arrangement but we could certainly reduce the time lapse chargeable to printing.

Technical Review and Editing of Manuscripts

The five-year plan provides for additional capability for technical review and guidance to authors and reviewers at both the Hyattsville office and the RTSC's (Table 3). As you know, we are currently moving toward more specific guidelines and instructions to authors and reviewers, in order to improve the quality of manuscripts and thus reduce editing costs. We shall need to continue improving the guidance to authors and reviewers in the states, and this necessitates appointment of a few more soil scientists to carry out the work as we move toward the processing of upwards of 200 manuscripts a year.

The plan does not include any increase in the editorial staff at Hyattsville. Instead, it calls for a great increase in the volume of contract editing. To edit these soil surveys by outside contract (especially in a short period of time) costs more than if we did the work in SCS Information offices. In addition to contract costs (which are normally higher than our own editing costs) the Service must prepare the contracts, supervise the editing, review the edited manuscripts, and mark the manuscripts for the printer. This is a "piggyback" cost of something over \$3,000 per survey that cannot be avoided if we contract for the editing. On the one hand, therefore, costs for contract editing are going to run some 30 to 35 percent higher than "in-house" editing. On the other hand, personnel ceilings are not going to permit us to do it this way.

The plan assumes that it will be easier to find contract editors in a number of locations than just around the Washington, D. C. metropolitan area. We propose, therefore, to search for contract editors in the areas near the RTSC's and to appoint and train contract monitors (soil scientists) at the RTSC's to review the work of the editors.

As we achieve a higher average quality of manuscripts, it is assumed that contract editing costs will decline. In preparing the cost estimates in Table 1, we used the following average contract editing cost for the average manuscript:

| | |
|---------|---------|
| FY 1970 | \$9,000 |
| FY 1971 | 9,000 |
| FY 1972 | 8,500 |
| FY 1973 | 8,000 |
| FY 1974 | 7,500 |

Modification of this plan to allow for more editing in SCS shops over the next six or seven years could result in lowering of editing costs by one to two million dollars. This means a 3 to 5 percent reduction in total survey finishing costs. The total editing costs in the five-year plan presented here constitute about 22 percent of the survey completion cost. Any expansion of SCS copy editing capability means more positions attached to the Washington Office or one or more of the RTSC staffs.

Summary

The five-year plan outlines a schedule for reaching balance between the rate of completion of field mapping and publication of soil surveys by the end of FY 1974 at an estimated total cost of about \$31,800,000. This averages about six and a half million dollars a year, or about twice the amount set aside for publishing in the FY 1970 SCS budget. To accomplish this acceleration requires temporary increases in the staffs of the Cartographic Division, the principal soil correlators and the chief of soil survey manuscripts. It is predicted that improvements in manuscripts will reduce editing costs significantly over the next few years. No increase in editorial staff of SCS is called for. Instead, outside contract editing will be used to accelerate the rate of editing of manuscripts. The increased staff in RTSC's and Hyattsville will be mainly soil scientists who presumably can be returned to field positions at the close of the acceleration period. The Cartographic Division will have to reduce positions during fiscal years 1973 and 1974.

William M. Johnson
Assistant to the Deputy Administrator
for Soil Survey

Enclosures

November, 1969

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He had sent me a reprint from Modern Fiction Studies but I hadn't realized that the whole issue was devoted to Joyce, somewhat like one in 1953. Not quite half of the new one was devoted to bringing up to date a James Joyce bibliography. Dr. Herring gave me one and it turned out that they had included my little piece A Joycean Holiday, even though they claimed that the list was restricted to "identified scholars."

Robert and I had talk in the afternoon but managed to get to bed a bit earlier than before.

Saturday, November 29, Robert reminded me that he was planning to bring to Hyattsville a flowering dogwood tree, which had had its roots pruned about a year earlier.

We left Charlottesville about 11:15 and arrived home about 1:40 in the afternoon. Each of us was pretty tired. After sometime unloading and so on Mommy and Stephanie went for the kitties. Shem made it clear that he was not happy about this, although he was all straightened out in another day.

Sunday, November 30, I took out an old azalea and made what I hoped would be a proper hole for planting the dogwood.

Monday, December 1, I drove to the office and found a large accumulation as usual. Dr. Guy Smith told me that he planned to retire during January, 1972. He, Bill Johnson, and I talked about possible replacements, especially Orvedal, Klaus Flack, and Jack McClelland. In the afternoon I had a talk with Norm Berg about the so-called computer program of the Service. He is beginning to wonder about all the computers that Van Dersal suggested. They were little ones and I'm convinced that people will scratch around for ways to use them as a status symbol. I told him that it seemed to me we would be better off in the Centers by renting the large machines for just a few minutes. Klaus Flack had developed a fine relationship

with the University of California at Riverside. With just a few minutes the boys can feed in their weights and other observations and get print outs of the data in any form they require. This means that they spend no time now in calculations, which required fully a third of my time in the laboratory in the old days. I explained that this illustrated that we should not start with the idea of using a computer; but with the nature of the problem. I explained that Mr. Orvedal was chairman of our Soil Survey committee and he could give him first-hand advice that would be better than mine. I had heard that the man Van Dersal picked out, a Mr. Murphy, *who* needed very close supervision to do well and that actually he was getting none at all.

Early Tuesday morning, December 2, I went to Group Health and got another shot in my shoulder, and did a little shopping with Mommy.

Mommy took me to National Airport for the plane to Chatanooga. We left about 1:30 and arrived in Chatanooga a bit after 4:00 p.m. Mrs. Baird, a faculty wife at Sewanee, met me at the plane since she had to come in anyway for a dental appointment. This was a much shorter trip than formerly because of the new interstate highway.

I got to my room in the Inn a little after 5:00 p.m. EST. While drinking tea, Mrs. Baird called to say that Mr. and Mrs. Nelson Loftis would call to take me to dinner at 6:00 p.m. He was the soil scientist for research with the Forest Service.

Mrs. Loftis left after dinner and Mr. Loftis and I had a long conversation in the evening.

I had a nice room except that my TV worked poorly and the one in the adjoining room worked altogether too well.

The next morning, Wednesday, December 3, I treated my shoulders with hot water. A bit after 8:00 some students came and took me to breakfast. Then I went to the Department of Forestry.

At 9:30 I gave a lecture on "The nature of agriculture." This and the question period took nearly two hours. I had a very good audience including some from SCS and the Extension Service and several students from the other departments.

I looked rapidly at the facilities in the Forest Service building for research. They had a very nice relationship with the university group and the two buildings were only about 50 yards apart.

I was taken to lunch at the "Faculty" club. I was told that this club was open to faculty members and "other gentlemen of the Mountain." (The University of the South at Sewanee was built on a high sandstone mountain.)

We returned to the Forestry Department for a bit of chit chat and at 1:30 I started my speech on "The potentially arable soils of the world and critical measures for their use." This took about 45 minutes and the question period went on until after 4:00 p.m. I had about the same audience as before except many more students from all branches of study, including a few young women. Dozens of chairs had been brought in yet some were standing. I had never enjoyed an audience more than this one. We got into controversial problems of economics, anthropology, foreign policy, ecology, and so on. One professor raised the question of student riots and this added another 30 or 40 minutes. After the lecture several students came up and we talked in a small group until we had to leave the building.

I was taken to the home of Professor Cheston for cocktails. His poor wife was stricken with multiple sclerosis and can neither walk nor read. He had a large frame on casters. He helps her on the seat and then moves her about. She spends much of her time listening to records furnished by the Library of Congress free. These include magazines and almost any book she wants. Then I had dinner with Professor Cheston at the Inn.

I had to be up at 5:00 a.m. EST, December 4. Professor Cheston came at 5:50 and drove me to Chatanooga for the plane to Washington by way of Atlanta. I was back to the office at 11:45 a.m. after a very pleasant trip.

Drosdoff came soon after and we both went out to Hyattsville for discussions with Dr. Smith and Dr. René Tavernier who was staying at our home.

The National Academy of Sciences was sponsoring a committee on tropical soils arranged by Brady. He took my recommendations for most of the members including, besides Tavernier and Drosdoff, Moormann and Aubert.

Mommy gave us a good dinner that evening.

December 5 I had a lot to do to catch up with correspondence and worked in a long talk with Dr. Frank Moormann. That evening Mommy had Aubert, Tavernier, and the Johnsons for dinner chez nous.

The next day, Saturday, we took Tavernier to the National Academy building. At least this once he was on time. The rest of the day I tried to catch up with current reading.

Sunday, December 7, I spent most of the time working on books and reading. It was a rainy day.

Monday, December 8, I had a long talk with Bill Riece of FAO. We had a very nice conversation. For a long time he worked directly under Ignatieff on the soil fertility side.

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I had many memos and papers to go over. I received the volume of Advances in Agronomy with a long paper by Orvedal and me on "The potentially arable soils of the world and critical measures for their use." They had improved the form of the bibliography over the proof.

Tuesday I had more talks with Riece and a luncheon conference with Dorny.

Wednesday, December 10, I spent most of the forenoon talking with Floyd Campbell, helping him to improve his general statement on "Programming, planning, and budgeting in SCS." I had many memos in the afternoon.

Thursday, December 12, I worked on three radio talks: 1. How to grow food plants on the moon; 2. Trickle irrigation; and 3. Town- and country-planning. The boys asked for the first two and I agreed only if they would give me a half-hour for the third one.

I learned that day that a man by the name of Peter Druisberg would need to be considered for the job planned for Mr. Johnson!, along with Smith, Klingebiel, Hockensmith, and Johnson.

Saturday, the 13th, Mommy and I cleaned up most of the remaining leaves and put the compost to bed.

Sunday, December 14, we had some snow. I worked in the basement assembling the bench and took that Santa Claus had for Randall. In the evening we had dinner chez Johnson.

Monday, December 15, I made the first two radio tapes on growing food plants on the moon and trickle irrigation. In the afternoon I was Acting Administrator.

The following Tuesday I was Acting Administrator with many memos. I had considerable talk on the telephone with Howard Sprague about the

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possibility of AID publishing the World Soil Map. (Even then I doubted they would find the money.)

I was again Acting Administrator on Wednesday, December 17. I learned that the University of Hawaii had in mind to offer Klaus Flack a professorship. If he should take it the Soil Survey would suffer a great loss.

I happened to sit beside Assistant Secretary Cowden at lunch and asked to see him briefly before he left for Germany the following Friday.

On Thursday, December 18, I had two difficult conferences in the Administrator's office. In the forenoon we had a man over from the Department's Personnel Office to consider a list of alternatives as candidates for the new position of Assistant Deputy Administrator for Soil Survey. Lindstrom was also there as well as Grant and Berg. Lindstrom had prepared a chart for considering candidates suggested by the USDA Personnel Office. Besides Mr. Johnson these included Smith, Hockensmith, Klingesiel, and a Peter Duisberg who is working in the Canal Zone as operating head of the Interamerican Geodetic Survey. This outfit was organized at the time Secretary of Defense McNamara combined the Army Intelligence, Navel Intelligence, and Air Intelligence into the Defense Intelligence Agency. Actually the Corps of Engineers had quite a few people "left over" who were not regarded as entirely competent by the new leadership of DIA. So this new agency was organized, not as a part of the Corps, but reporting to the Head of the Corps of Army Engineers. Under a contract with AID, they got out a lot of maps, mainly by taking the maps we had produced for Army Intelligence, reworking them a bit, and printing them for use in Latin American countries. When Moseman was in AID I explained this doubtful program to him. He was unable to get it stopped but apparently it was reduced.

I looked over this man's (Duisberg) record and found nothing that seemed to me would give him experience with any of the kinds of work we are doing mainly-- that is, detailed soil surveys. (He had recently called on Hockensmith and wanted any kind of job with us, to study "the environment" even in GS-9 or GS-11.)

By considering age, experience, and service, we made a rating of all the people on the panel and came out with Mr. Johnson as the best qualified. Yet there was a great deal of discussion that the Washington Soil Survey office always spoke with one voice-- the voice of Dr. Charles E. Kellogg! I think this silliness came to Grant and Berg mainly from Jaedicke, Tinsley, and a few of our poorly qualified state conservationists. I told Grant and Berg that this was curious because some people in Canada accuse the national Soil Survey leadership in Canada of speaking too much just like Kellogg! Yet I do not see these men as much as once a year. I am sure that Grant was playing Devil's advocate, partly to impress on me that Bill needs to have ideas of his own. I am not so sure about Berg, who knows little about soil survey work anyway.

Then about 3 o'clock I had another meeting with Grant, Berg, Dorny, Johnson, Gockowski, and Hubert Kelley. This was to decide what additional funds we would have the remainder of this fiscal year to implement a five-year program for catching up on the enormous backlog of unpublished soil surveys. This wasteful backlog was due entirely to the extreme jealousy that D. A. Williams had for me and for the Soil Survey. The total appropriations for soil surveys increased enormously from 1953 up until about 1965 with essentially all of the new funds going to field work with very little additional for the laboratory, soil correlation, cartographic, editorial, or printing. Anything over about 23 published soil surveys a year had to come from so-called "year-end" funds. We started with

completing field work at a rate of about 30 or 40 a year. This figure rose to over 90 a year. Since we had funds to do only about 35 to 45 a year, including the year-end funds, many millions of dollars worth of very valuable soil surveys were withheld from the public. The Secretary had demanded that this be corrected and brought into balance within five years even though other funds allotted to conservation operations must be used. I know that this makes it very difficult for Mr. Grant because he does not want to cut the other work, and, of course, I cannot suggest it.

Dorny told us that it would take him sometime to figure out just what could be done with the present funds and expenditure limitations. Here again I got a good deal of advice about considering other methods. A lot of silliness was said about our so-called efforts to do a perfect job. Certainly some of the more stupid field representatives and others, who could not know less or care less about soil surveys, have been spouting off.

It was reported that state conservationists "think" that they can publish these surveys themselves, which, of course, they cannot at all. They have gotten out copies of field sheets with quicky reports. Most of these are full of errors and include many very serious errors.

We explained that we had repeatedly asked for suggestions but have had very few. Actually, we had cut down to the bare bones the text of the published soil survey and I cheapened the maps down to the very limit of what is legible to ordinary users.

If we produced our maps in 1970 in the format we used in 1950, and with the same cartographic methods, they would cost more than twice as much as those being published now. Further, the total cost of publication is a very small percentage of the total cost of the soil survey project, say about \$42,000 to \$48,000 out of \$200,000 to \$300,000.

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Finally in the late evening I told Mr. Grant that I believed the next time we had such a conference I should wear colored glasses and carry a handfull of pencils in one hand and a tincup in the other! I knew by his reaction that mostly he had been playing Devil's advocate.

He then said my staff was getting old and I needed more young men. Again I explained that I had said this repeatedly to Mr. Williams. He said, "I have a young man in mind that I wish you could bring in here and train for a future leadership position." I replied, "You mean Dirk van der Voet in Michigan?" And that was right. He said, "How about bringing him in as an assistant to Mr. Klingebiel as a GS-14?" I told him that would be fine. We had three men in that unit and they were all considerably overworked. He told me he would have Mr. Lindstrom come down and talk to me about a job description. This was fine ^{for Grant and Vander Voet, but not the Soil Survey} except that we needed the money quite a lot worse in cartographic at that moment. But perhaps this accomocation will help get it!

We discussed it a bit among ourselves in the staff. Then I went home and was early to bed. What a day! It is a good thing I have learned not to be thin skinned.

On Friday, December 19, I first responded to Dr. Cowden's request that I come over and see him for a few minutes. This request grew out of a conversation we had briefly at luncheon a few days earlier about the need to stress cities in rural development and not make it seem that USDA was only a welfare agency for farmers. This time I explained to him the essence of several speeches I have given or have under preparation about town- and- country planning and that one cannot have successful commercial farming anywhere without an efficient city. These cities should have the full gamut in agribusiness and other job-producing industries based on forestry and other local resources as well. He asked me, "Do not most people in the

Department understand that?" I replied that very few indeed understood it, not one in 500. I recalled to him the experiences I had with city people with The college of agriculture: Science in the public service. Nearly all of them thought that colleges of agriculture trained people only in farming and that they could be phased out with the declining number of farmers. Unhappily, few of our people in the Department of Agriculture had any real realization that agriculture employed more people in the United States than any other enterprise. He seemed to be amazed, but I assured him that this was true and that while he was taking his vacation in Germany I hoped that he would roll this around in his mind.

I told him that if he continued to talk only about "rural development" nearly all of the employees will fail to understand that this has anything whatever to do with towns and cities. What we need in this country are 400 or 500 new cities with jobs not only in agribusiness but many other businesses to take up the slack in employment and to relieve the old big cities, which are in such dire circumstances.

He asked me briefly how we were coming with the soil survey program. I told him that we had made some progress in a conference the day before. He said, "Now you have got to get this done even if it takes money from elsewhere in the Service." I told him, "You can say that but I cannot. I think you will need to ask for an occasional report on the progress."

Later I explained the conference on town- and country-planning to Berg. He said that he agreed fully with me. He admitted, however, that the SCS Resource Planning Division lacked any of the economic skills to deal with this kind of planning.

I had a long talk with Dorny, but he told me that he could not be specific about the ^mfunds for soil survey publication until Monday, 22 December. Then he explained some of the very silly things Van Dersal was doing. He must be having increasingly serious mental lapses.

The Governor in Vermont told the state conservationist there that he wanted the soil survey of Vermont finished in 5 years! He will write to Senator Aiken! Grimwood is to call me about estimates next Monday. So I alerted Dorny and Hockensmith to be prepared.

Fortunately the mail had been fairly light.

I did learn that Professor Emil Truog had just died.

On Saturday, December 20, I worked all day on the tool box for Randall. On Sunday I finished the tool box and did some reading.

On Monday, December 22, I drove to the office in a very heavy rain. I had more conferences about the Soil Survey backlog and things seemed to be going well.

December 23 I took annual leave and cleaned up the garden a bit. Then I went to Mary Alice' apartment and assembled Randall's tools so that we could move them in Christmas morning. Robert, Joan, and the children came about noon. He had the dogwood tree with a large ball of earth and we planted it near the compost pile. It was quite a job because the tree and earth must have weighed 150 pounds.

All the children and grandchildren were with us for dinner plus a friend of Mary Alice', Robert Grecco.

Wednesday we talked and I read a bit. Robert and family left about 2:00 p.m. Shem, Mommy, and I took naps.

In the evening Bill Johnson called. He and Klingebiel talked more with Grant about the possibility of an advisory committee and they finally agreed on a trial conference at Ft. Worth early in 1970.

On Christmas morning Mommy and I went to Mary Alice'. Here again I spent most of my time assembling toys. In the evening Mary Alice and the children came for dinner and to stay all night. It snowed.

The next day I shovelled snow much of the morning. After lunch Mary Alice and the children returned home and I worked at covering books.

Saturday, December 27, I went to Group Health for an eye examination and Mommy and I did a bit of shopping. In the afternoon I covered some more books with plastic.

Sunday I covered books and Mommy worked very hard getting ready for evening guests. She made a very luxurious dinner for the Derrs, the Orvedals, and the Johnsons. Happily, Mrs. Johnson stayed afterward to help her clean up the mess in the kitchen.

Monday, the 27th, I went to the office and cleaned up a rather small accumulation of memos and went through several journals. Near the end of the day I rather drastically edited a paper on small-scale soil maps by Clifford Orvedal and arranged to be on annual leave for the rest of the week.

The last two days of December I stayed home on annual leave. I cleaned up my desk, worked on books, and did some jobs in the basement.

New Year's Eve the Dykes had dinner chez nous.

1970.

The first four days of January I worked at making a squirrel house, worked on books, bought some new clothes, and read.

January 5 and 6 I pretty well caught up reading memos and on correspondence. I was very busy but nothing particularly dramatic.

On January 7 we had an important meeting of the FAO Interagency Committee. Much of this reviewed the last conference in Rome in which our government took a narrow and stubborn position about the increased budget and stood out against the great majority on \$60,000 a year! I talked more at this conference than usual and I hoped that Assistant Secretary Palmby could do something about it. (Notes attached.)

January 8 I discovered that Mr. Orvedal had failed to call my attention to the extra \$5,000 needed for computer work. But I was able to get it arranged.

On January 9 I had an excellent conference with the new state and assistant state conservationists about our soil survey program with emphasis on publication, better field sheets, better manuscripts, improved use of published soil surveys by district conservationists, and more enlightened leadership in the state office. They all agreed that the state conservationist should attend the first progress review. We also agreed that the priority of a soil survey is established when the work plan is signed and the field work begun.

It was very cold that night and Guy couldn't get his car started so I was late home. Mary Alice and the children were there and also the Johnsons had dinner chez nous.

Saturday, January 10, the children were with us while Mary Alice was in New York City on a holiday.

The following day I helped Randall finish a little bird house.

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1161

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SUBJECT: U.S. FAO Interagency Committee Meeting

DATE: January 7, 1970

TO: Files

Today we had a long meeting of the U.S. FAO Interagency Committee with Dr. Palmby in the chair along with Dr. Phillips and Mr. A. J. Mair.

We had long discussions of what went on during the last FAO conference and council sessions. The biggest handicap was the unreasonable instructions given our U.S. delegation about the budget. Even though they had been successful in bringing the budget proposals down close to what the U.S. had recommended, the total was a little bit higher than the U.S. Government had recommended. It amounted to \$60,000 a year for the United States. Still Washington insisted that our delegation vote against it. This hurt us a good deal; otherwise Dr. Phillips would have been chairman of Commission II and so on.

Also reference was made to the most unfortunate news article that somebody wrote on the basis of recent FAO statistics about the "green revolution" showing the large increase in food production. Canada had a great excess of grain and so did Australia. Mainly there were excesses of dairy products and other products in western Europe due to the enormous subsidies for farmers, pushed especially by the French, within the European Common Market. First of all, grain is only a part of the food supply. The population and the food supply are by no means distributed the same. I am sure that several hundred people have died in Calcutta of starvation within the last week. Further, if large amounts of cheap grain are shipped to the undeveloped countries, local prices will be so reduced as to discourage farm development at home. It has happened in south Asia with gifts from the U.S.

Then too, there was a discussion of these undeveloped countries wanting to have food exports. I pointed out there were many agricultural exports besides food and we have not given enough emphasis to improved types of rubber trees and African oil palm. (Of course, tea, coffee, sisal, cocoa, and canaif are already a bit in trouble.)

I also got an opportunity to push again for an outside FAO Agency Committee. I have been doing this for several years without success.

I emphasized the fact that very few educated people in the U.S. really knew anything about FAO. I pleaded for such an advisory committee composed of a few prominent farmers, agribusiness leaders, and college leaders. These should be people that talk to Members of Congress, who are often asked to make speeches, and had good judgment. They would advise the Secretaries of Agriculture and State. We should need a small secretariat to furnish materials. Now, of course, if this were done, the Government would have to pay some attention to their advice. Otherwise they would not continue.

Mr. Palmby was quite impressed with this and said he would discuss it with the Secretary this afternoon.

Then the question came up about cooperation with the Congress. I pointed out that this was urgently needed, primarily with the committees on foreign affairs and appropriations, not simply the agricultural committees. I recommended that people interested read Mr. Atcheson's new book to see how this was done in preparation for UNNRA, NATO, and the Marshall Plan. I did think, however, that the question of Congressmen as members of the delegation of FAO was quite a different matter and they might not be particularly anxious to do that, especially those who were in the opposite party than the one in control of the administration. Further, it seemed to me that the selection of delegates was an administration matter.

Further on in the conference the question of arguments among international agencies arose. I again pointed out, as I had before, that a large part of this was due to the conflicting instructions given delegations representing the United States. A small committee of us looked into this several years ago and found that the situation was very bad indeed. Delegations to FAO had quite different instructions than those to UNESCO, WHO, WMO, and so on, on nearly identical points. We had quite a file on this and, of course, it would be easy to fix. It had been done between UNICEF and UNESCO.

I also discovered that I had been put down, along with Haines and Edminster of ARS and Ayres of AID to work out a plan for U.S. participation on soil fertility and fertilizer use in Africa, sometime in 1970.

Charles E. Kellogg

I raised the fact that very few educated people in the U.S. really knew anything about FMO. I pleaded for such an advisory committee composed of a few prominent business, academic, labor, and college leaders. These should be people that talk to members of Congress, who are often asked to make speeches, and they would advise the Government of appropriate action. We should need a small group to advise the State. Now, of course, if this were done, the Government would have to pay some attention to their advice. Otherwise they would not continue.

Mr. Fahmy was quite impressed with this and said he would discuss it with the Secretary of State.

Mr. Fahmy said that this was urgently needed, primarily with the committee on foreign affairs and appropriations, not simply the executive committee. I told him that I had been in preparation for this. Mr. Atcherson's new book to see how this was done in preparation for the UNCTAD, and the Marshall Plan. I did think, however, that the members of Congress as members of the delegation of FMO would have a different attitude and would not be in position to do that, especially those who were in the opposite party. But the one in control of the administration, President, it seemed to me that the selection of delegates was an administrative matter.

Further in the conference the question of arguments among international agencies arose. I again pointed out, as I had before, that a large part of this was due to the conflicting instructions given to agencies representing the United States. A small committee of us looked into this several years ago and found that the UNCTAD and the Marshall Plan had different instructions. We had to try to make a compromise between the two, but we were not successful. We had to make a compromise between the two, but we were not successful. We had to make a compromise between the two, but we were not successful.

I also mentioned that I had been for some time in the United States of America and that I had been for some time in the United States of America and that I had been for some time in the United States of America.

Monday, January 12, the field representatives were here and a few of us had a conference about the new Nebraska district law. Our state conservationist had sent a prepared statement that was quite unwise. We discussed this, and following the conference I prepared a statement for Service policy to which all agreed. The basic trouble was that the state had been urged to follow hydrologic boundaries rather than county boundaries.

After lunch I learned that DIA would cease all its support of the World Soil Geography Unit after June 30, next! Quite a blow after some 27 years. This would mean finding places for seven first-class professional men. At the end of the day I saw Mr. Grant for a few moments and suggested that John Rourke replace Arnold Baur as principal soil correlator in the northeast. Subsequent events showed that Grant appointed him then and there.

On January 13 and 14 I was Acting Administrator and very busy indeed to handle my work and Mr. Grant's.

One of the worst was caused by a young district conservationist in Kansas writing an innocent letter to the Harris Company in Nebraska about the purchase of equipment for a soil fertility testing lab in an R.C. and D. project. This is strictly against Service policy. The company wrote to Grant, Secretary Hardin, and 2 or 3 on the Hill.

I prepared a memorandum asking for the minimum money to maintain a staff of 2 professionals and one clerk in Soil Geography.

Friday, January 16, most of us had more questions than we had answers with all the talk about cutting the budget and putting all US resource conservation work into the Department of Interior.

January 17 and 18 I finished the squirrel house and a chickadee house and did some reading and some other chores.

Jan, 1970

-1164-

Sunday afternoon John Rourke called after family conferences to tell me that after the first shock of moving to Upper Darby they were all adjusted and prepared for it. He would be the strongest man at that R.T.S.C.

Monday, January 19, I had several office conferences about memos and the new guide for authors of soil survey manuscripts. After lunch I went to the Hyattsville office and talked some more with John Rourke about situations for those in world soil geography. Then we had a long conference on the many problems of scheduling soil surveys.

Before noon of Tuesday, January 20 I was able to see Administrator Grant for just a few minutes. He had been gone most of the previous week. He returned ill on Friday, remained home ill the next three days, and was still ill. Yet he had scheduled himself to go to an Ohio meeting that afternoon.

I explained to him that we simply had to talk about details on the Soil Survey program. Of the additional \$500,000 we had been promised for fiscal 1970 we had been able to have only \$150,000 for the simple reason that nothing was scheduled within the expenditure ceilings. If we were to meet the minimum goals suggested we should need a considerable part of the money by February 1 to let contracts for high flights and for map finishing. Also, I needed to reach some firm decisions of what to do with the boys in World Soil Geography and how to keep a minimum staff. He agreed to read the memos and we could discuss them the following week.

I then went out to Hyattsville for the retirement luncheon of Mr. Ableiter. When this was over Mommy took me to the USDA library. I worked there for about an hour and a half and she sent Bill Johnson after me because the weather looked bad for the roads.

Wednesday, January 21, I developed a memo to the directors on an interim scheme for handling progress reviews until Ableiter's job could be filled by a new man.

I talked with the leader of the Virginia State Conservation Commission in Richmond about legislation that would give counties state funds for soil surveys on a 50-50 matching basis. I agreed that the Operations staff here would arrange to get him copies of both the Florida and Iowa laws.

I also got Bill Johnson to write to Swindale in FAO about the proposal made at their request for Mr. Ableiter to go to Kenya to establish a soil survey along modern lines.

Thursday, January 22, Mommy drove me in early to Group Health for another treatment for my shoulder. I took a cab to the office and spent the rest of the day on more memos and several personnel problems. Two rather poor soil men were given leave for foreign duty some time before. Now they were coming back. Although I had nothing whatever to do with their selection in the first place, curiously it becomes my problem now to place them!

Friday, January 23, I drove the car pool. The weather forecast was for snow but it didn't come. I had much correspondence and more of the personnel problems.

Over the weekend, January 24 and 25, I stayed inside to work on books and did some reading and writing. Saturday forenoon Mommy and I went over to Mary Alice' to fix the cover on her new record player.

Monday, January 26, more review of budget and personnel problems including further examination of how to place two poor men coming back in the summer.

The next day was very busy with memos and conferences. Finally, I had a long appointment with Ken Grant. He agreed to take a chance on expenditure ceilings and to release money for our map-finishing contracts and urgently needed high-altitude photographs. I went over with him the plans for maintaining the World Soil Geography unit with service funds and I think we can make it. I also explained the disposition of the several individuals on the military budget who will be released June 30, next.

1. The first part of the report deals with the general situation of the country.

2. The second part deals with the economic situation and the progress of the work.

3. The third part deals with the social situation and the progress of the work.

4. The fourth part deals with the cultural situation and the progress of the work.

5. The fifth part deals with the political situation and the progress of the work.

6. The sixth part deals with the international situation and the progress of the work.

7. The seventh part deals with the conclusion of the report.

8. The eighth part deals with the appendixes of the report.

9. The ninth part deals with the bibliography of the report.

10. The tenth part deals with the index of the report.

11. The eleventh part deals with the list of figures of the report.

12. The twelfth part deals with the list of tables of the report.

13. The thirteenth part deals with the list of maps of the report.

14. The fourteenth part deals with the list of abbreviations of the report.

15. The fifteenth part deals with the list of symbols of the report.

16. The sixteenth part deals with the list of units of the report.

17.

18. The seventeenth part deals with the list of references of the report.

19. The eighteenth part deals with the list of sources of the report.

20. The nineteenth part deals with the list of documents of the report.

21. The twentieth part deals with the list of publications of the report.

22. The twenty-first part deals with the list of works of the report.

23. The twenty-second part deals with the list of books of the report.

24. The twenty-third part deals with the list of articles of the report.

25. The twenty-fourth part deals with the list of chapters of the report.

26. The twenty-fifth part deals with the list of sections of the report.

27. The twenty-sixth part deals with the list of paragraphs of the report.

28. The twenty-seventh part deals with the list of sentences of the report.

29. The twenty-eighth part deals with the list of words of the report.

30. The twenty-ninth part deals with the list of letters of the report.

I explained that it was not desperate that we start the advanced mapping system immediately for which we had planned an expenditure of \$150,000 in equipment this spring.

I brought forward some other points of decision with which he agreed and then explained the need for a field reminder of our close relations with extension in their role as the educational arm of the USDA. He played Devil's advocate for a while and then agreed that the memo should go out and asked that I should write it.

But the big event was on the so-called "land capability system" -- an atrocious invention of H.H. Bennett in the late 30's. In June of 1969 I outlined the whole miserable problem in a long memorandum already included in these notes. He raised the problem of revising all our memos and guidelines in all the offices of the Service. Again, playing Devil's advocate. But he said, "Of course you are right. The system does mislead people including some of our own staff." I said to him, "Well then Ken, we as public servants must correct it." Then he asked me how I proposed to go about it. I explained that I wanted to talk more or less confidentially with 4 or 5 of our ablest people here outside the Soil Survey first with the hope of coming out with a general proposal that would substitute a clear system with the least possible confusion. I said, "I know this has been a sacred cow for a long time but hundreds of our own people want it changed but have been afraid to say so openly. I should like to prepare this general plan; and discuss it with you; and then work up the details with the Soil Survey staff." Ken said, "OK and go ahead on this basis. The revolution broke.

I discussed the matter with Floyd Campbell and with William Davey. I planned other discussions with Blakley and with Berg.

Then I finished the day with a flurry of memos and letters.

During the remainder of the week I discussed a rating for field crops to substitute for the silly land capability thing with several. This will take a lot of work.

Floyd Campbell came to see me Thursday afternoon. Grant had called him in to show him a comment against his general statement of Service program for 1971. I had worked with him on this and he had it in quite good shape. He said that he had told Grant that he could describe the man and even name him. (Tinsley). I explained to him that Grant had a habit of playing Devil's advocate and tried to calm him a bit. Friday I cut a tape for radio on town- and country-planning. After that Campbell came in all smiles saying that Grant had now read his statement and liked it. I put the finishing touches on our general statement on Soil Survey for the House committee on Appropriations.

Over the weekend, January 31 and February 1, I put new rubber treads on the basement stair steps and ended up hoping they would last for a long time.

Sunday I worked on books and manuscripts. I took some books to Mr. Miller for binding and brought some home.

The week beginning February 2, Joyce's birthday, was a very busy one, what with my own mail and that of the Administrator's office. I tried to lay the groundwork for getting some funds to help continue the World Soil Geography Unit.

During the week I had a long paper and letter from Ted Schultz. The letter was a complimentary one on the long essay by myself and Orvedal. The draft paper by Schultz violated most of the main principles of the paper he had commented on. So, of course, I gave him a very long letter in reply. I hope it did a little good.

On Friday the 6th we finally got the approved papers for Bill Johnson's promotion to GS-16 to be effective the next Sunday. (Announcement attached.)

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
Washington, D. C. 20250

February 10, 1970

Advisory PERS - 22

From: Kenneth E. Grant, Administrator

Re: PERS - Personnel Change

Effective February 8, 1970, William M. Johnson was promoted to Assistant Deputy Administrator for Soil Survey. Mr. Johnson previously served as Assistant to the Deputy Administrator for Soil Survey.

Kenneth E. Grant

STC
RTSC
WO

For a little more than two hours Friday afternoon I had an interview with a young man from the Brookings Institution. It seemed that several granting agencies gave them money to study eight governments including the US through interviews with selected administrators and legislators. I have no idea now they got my name but the interviewer already knew more about me than he could get in Who's Who in America, possibly from the super-grade register of the Civil Service Commission. He asked about my politics and that of my family, religion, how I got into soil science work, why I came with the government, relations with other administrators and members of the Congress, and what was the principal problem ahead for the Soil Survey, for the government, and for the country. He wanted to know whether I felt optimistic or pessimistic and why. Before he quite finished he ran out of tape! I supposed that all of this had to get on a computer but I didn't see quite how.

I spent most of my time over the weekend, February 7 and 8, covering books for the "new room".

The next week I had more conferences with people about a logical substitution for the capability system.

Previously I had complained to Assistant Secretary Robertson and to Lloyd Davis about the bad situation of the library. Davis called me to explain that the Secretary was now aware of the problem. Robertson called about the library dropping the Bibliography of Agriculture and turning it over to a private company that would charge \$85 a year for each one.

I had several papers to go over. The silliest one was an absurd historical introduction to ^{an} report ^{of} the equally silly "conservation needs inventory." This had been badly conceived and poorly carried out at tremendous expense as a propaganda tool. Salter had killed the idea but Williams revived it. The amount that it cost was reported to Congress as a mere

fraction of the 15 or 20 millions spent. An old buddy of some of the boys, who had retired after a series of utter failures, a Mr. Edminister, had been promised a contract to do this for \$13,000. What a shame and what a way to waste money.

Wednesday some of the staff came in and insisted that I write a considerable statement about USDA's work on soil erosion for a press conference of Secretary Hardin, and also a considerable part of a speech for Assistant Secretary of Interior to give in Philadelphia on soil surveys and community planning. Of course I could not even make an outline so just went ahead and dictated them and hurried to lunch. I returned to correct them and went out to Hyattsville for the monthly meeting on Soil Survey scheduling.

Thursday Mrs. Colten and Mr. Klingebiel came in with a rough draft of the manual for authors of soil survey manuscripts and I had dictated the first draft of this in the spring of 1966. Certain parts were to be supplied by others. I should have followed through weekly and we could have had it done in 1967. This present document was too long, repetitious, and not well written. I spent the whole day on it. Mrs. Colten hadn't time to edit it. It is obvious now that the Soil Survey people have not the skill to edit it. I decided we should get it edited by contract and I should re-edit it.

By Friday, February 12, I was very tired. Just about everybody except myself was pleased with Secretary Hardin's latest "conservation speech." In it he had made the same errors that Freeman had -- that the whole of agriculture was 5,000,000 farmers and their families. This will further impress on the minds of most city people that USDA had become primarily a relief agency for farmers. And maybe this is correct. Certainly the great research efforts that made the USDA are now poor in comparison to earlier years, and the scholarship has deteriorated tremendously.

Saturday we went to Mr. Miller's for some books and bought four new chairs at Scan.

Sunday I read and worked a bit at chores and in the evening we attended a small "do" at the home of Mr. Howard B. Cottam, the regional representative of FAO.

Monday, February 16, Guy Smith was back after a short visit in Rome and Ghent. He reported a ridiculous story of the Congo. Mobutu had gone out to INEAC headquarters at Yangambi to look things over. An agreement had already been made with Brussels by him for many of the Belgian scientists to return. He asked the native leader how things were going. He explained that he lacked 30,000 francs to pay the staff. Later in a speech Mobutu made a big show of handing him a check for 30,000 francs. Afterward the man in charge said he had made a mistake and the amount needed was 100,000 francs. Mobutu became angry and threw the whole bunch in jail. Jurion refused to let any of the Belgians go while these people were in jail. So I supposed it would take another round of negotiations.

Both Monday and Tuesday were routine days with correspondence and memos.

Wednesday, February 18, I had a conference with Grant about an alleged remark of Bill Johnson's to Major of Minnesota about his new state soil scientist. (Added later: Johnson had made no such remark -- that we would appoint the state soil scientist!)

In the afternoon John Rourke, A.C. Orvedal and I had a conference with Dr. Quentin West and one of his senior staff, Mr. Martin Kreisberg, about the use by AID of our world soil map. West was very familiar with this and had us previously develop several country reports on a reimbursable basis. We had a useful discussion and they said they would explore the needs of AID for such work.

Thursday, February 19, I had an early discussion with Grant and final agreement on \$47,000 in fiscal 1971 for Soil Geography to continue the 1:1,000,000 soil map of the US and interpretation of foreign research as applied to the US. This would keep Ackerson, Miller, a secretary, and moderate travel and office supplies.

I became very angry at the Academic Press for sending each Orvedal and me a check after we had explained several times that we were unable to accept a check for our paper published in "Advances in Agronomy" Volume 21. I wrote them another strong letter and explained that we wanted what was due in the form of reprints for the official use of the Soil Survey.

Friday I continued a very busy week of letters and memos.

Over the week end, February 21 and 22, we worked on state and federal income taxes. On Sunday the Dykes came by and later Bill Johnson. He had returned late the previous Friday and had just taken Carol to the plane to visit their sick daughter in Eugene, Oregon.

Monday, February 23, was a holiday. We took Shem to the vet for boarding and drove to Charlottesville, where they had no holiday. So I rested a bit and we had a nice talk with Robert and his family in the evening. I learned that Phil Herring would be going to the University of Wisconsin.

Tuesday, February 24, we drove to Lexington, Virginia where I was scheduled to lecture. After lunch I went over to the Virginia Military Institute and gave an illustrated lecture on "Tropical soils" to a rather small group with a few alert students among them.

Later we had dinner with Dr. Alan White, our host, and his wife, and Mr. and Mrs. Gupton.

Afterward I gave an evening lecture on "The potential arable soils of

the world and critical measures for their use." Here also I had a small group of perhaps 30 to 35. Of these 6 or 7 were quite bright boys and we stayed around until about 10:30 discussing points.

February 25 we drove back to Washington. I stopped at the office around 12:30 and cleaned up most of the memos and letters.

February 26 I spent most of the day on memos, letters, and budgets, especially for the coming House hearings.

A real hassle was developing over the appointment of a state soil scientist in Minnesota to replace Robertson. The assistant state soil scientist, Scilly, was a pretty good boy but a poor leader and we all agreed that he would make a mediocre state soil scientist. But the new state conservationist, Major, was insisting that he be appointed and had apparently indicated to Grant that we were prejudiced against him on a personal basis. This was nonsense. I had a long talk with Carl Lindstrom about it and told him that we had about a dozen others who were weak for exactly the same reasons and I guessed we could have still another. He and I agreed that our system was faulty. Still this decision bothered my conscience and so late in the afternoon I talked about it a little with Grant. I explained that I was willing to go ahead with the thing in Minnesota but it was obvious that the system wasn't working and raised the question whether a few of us couldn't get together and figure out how to improve it.

He was in a hurry to catch a plane and started in playing Devil's advocate. He wildly accused my staff and me of having confidence only in our own judgments. I told him repeatedly that I hadn't come to argue with him and that I had no specific proposal in mind. What a conference!

Friday, February 27, I pretty well cleaned up our week's load of conferences and budget problems. I also signed a memo that I had worked on for several days assigning specific administrative responsibility for all activities bearing on soil survey publication to William Johnson. (Copy attached)

In the afternoon Orvedal and I had another conference with Martin Kriesberg who had been exploring the use of the world soil map in AID. He had talked with Dr. Long and Dr. Kelley about a world-wide "PASA" agreement for research to assist field missions. In the first instance we would furnish appraisals of the potentials of the soils and suggest the routes for roads and so on. We could also include further detail on adapted crops with approximate yields. We could also estimate the necessary inputs for fertilizer and the like. Additional on-the-ground studies could be arranged as separate "PASA" agreements with individual missions.

This sounded very good and we agreed to prepare a short statement of 2 or 3 pages summarizing what we could do. This would be followed by a joint conference with AID.

That evening I had just been home a few minutes when Ken Grant called. He had returned late in the afternoon. He told me that he had been thinking of our Thursday conversation and realized that he had made a botch of it. He was very apologetic and suggested that as soon as the hearings were completed the next week he would talk with me about the small conference that I proposed to see how we could improve the process of developing suitable panels of candidates. This was all that I had asked him for in the first place.

Mary Alice and the children were here on the occasion of her 40th birthday.

Saturday, February 28, I made a scratching post for Mary Alice' kitty and worked a while in the garden.

1175
UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

February 27, 1970

SUBJECT: Coordination of soil survey publication

TO: Soil Survey Directors
Assistant Soil Survey Directors
Principal Soil Correlators

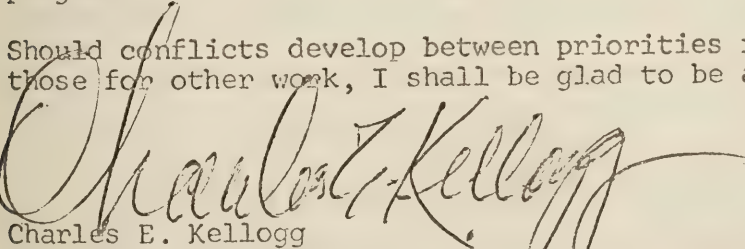
We must continue to plan for stepped-up publication of soil surveys to reach a balance between the completion of field mapping and final soil handbooks and the release of published soil surveys for general use. We should look forward to reducing the backlog of published soil surveys to a level of those being worked on, which is reasonable for efficient operation.

Several aspects of our work must be timed and given appropriate priority so that all fit together to produce a good publishable and useful document without undue cost or any unnecessary loss of time.

This objective means a coordination of and standards for field mapping, soil handbooks, soil survey manuscripts, proper air photographs or mosaics, cartographic activities in the units and states, soil correlation and interpretations at all levels, editing, printing, and other activities that bear on the job.

I am directing William M. Johnson, Assistant Deputy Administrator for Soil Survey, to take administrative responsibility for this coordination, including close liaison with SCS Information and B&F divisions as required. He will give essential guidance to directors and principal soil correlators on this phase of our program.

Should conflicts develop between priorities for this work and those for other work, I shall be glad to be as helpful as possible.


Charles E. Kellogg
Deputy Administrator for Soil Survey

cc:
RTSC Directors
Heads, Soil Survey Laboratories
C. H. Dorny
H. W. Kelley

March 1970 -1176-

Sunday I worked some in the garden and some in the basement. Bill Johnson dined chez nous.

March 2 I had the usual memos and a conference with Orvedal, Ackerson and Rourke on the proposal for FEDS and AID on the help that the Soil Survey could give them based on our world soil map and large collections.

I had lunch with Bill Wigton about his proposed advanced studies in statistics and economics with North Carolina at Raleigh.

Tuesday, March 3 I drove in bad rain and bad traffic. I made a draft of the memo discussed the day before and had the usual correspondence.

March 4 was similar except that we had our hearings in the afternoon before the House Subcommittee on Agricultural Appropriations. They went very well indeed including good statements about the Soil Survey. Grant handled most things himself. Nearly all of the questions were designed to get information to support our program on the floor of the House.

That evening Robert, Joan, and the children were here for a late dinner. Robert and Joan left the next morning for New Orleans. He had a lecture scheduled at Tulane. The children stayed with us.

Thursday, March 5, I completed the statement for FEDS and AID.

After finishing the correspondence in the morning I picked up two recently published soil surveys. In each of them I found gross errors which resulted in some pretty sharp conferences with both the cartographic and editorial offices and a memo to Helseth that never again were they to put the absurd "rating factors" of the so-called "Storie index" into any soil surveys for publication by USDA.

Friday, March 6 was the usual morning. After lunch Mommy and the Charlottesville grandchildren came by and we used our complimentary tickets to witness the opening of the Flower Show.

Saturday, March 7, I spent nearly all day in the garden and put up the squirrel house with the help of my neighbor, Frank Toomey, along with considerable advice from others.

Sunday I just managed to finish the spring clean up for the front lawn and garden.

The Dykes came and chatted a few minutes. We planned a late dinner and a little after 3:00 p.m. Robert called that he and Joan would not come in from New Orleans to Friendship, where they had left their car, but to Dulles. So we hurried around and finished our dinner, gassed the car, and, with the grandchildren reached Dulles about 5:30. Then we had to drive in the terrible traffic to Friendship and back home.

March 9 the cartographic heads and their assistants started their meeting in the conference room. They had been here for a week for the meetings and exhibits of the Photogrammetry Society. Except for this one day they would spend most of the week at Hyattsville. I spent what time I could with them and also took care of my correspondence.

March 10 I worked in the office for a little while and then attended our appropriation hearings in the Senate. These were about the friendliest that we had had there for some time. Again Mr. Grant did very well.

March 11 I had conferences with several state conservationists here (mainly to call on the congressmen from their states.)

Besides the usual correspondence I went over a new draft of the soil science standards prepared by a new man in the Civil Service Commission. These were poorly written and needed a lot of work.

Thursday, March 12, I had lunch with Sasser and meetings with several other state conservationists. I called Gettysburg College about plans for my visit there and they called back in the evening. Between times I started a speech on soil surveys and zoning that I am supposed to give in Washington May 25 next for a meeting of the National Association of Real Estate Boards. Like ^hother such speeches most of it will be done in 5- and 10-minute intervals.

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Late in the afternoon the cartographic group and I had a very nice meeting with Grant in his office. The men were very pleased.

Friday, March 13, between conferences and memos I got a bit done on the zoning speech, perhaps half of it.

Saturday, March 14, I worked in the back garden until about 1:00 p.m. Mommy helped. In the afternoon we took the 11th Britannica over to the bookbinder to make some new back strips. The books were in fine condition except for the leather back strips, which obviously had been exposed to the sun and had never been greased.

On the way back we stopped for a while chez Dykes.

The following Sunday, March 15, I worked from about 8:00 to 12:00 cleaning up the back garden. But it would take another 5 or 6 hours.

In the afternoon Mommy and I went to the dedication of the new Red Cross building. I came home a bit early and got the papers read.

Monday, March 16 was the usual day except that I had a long discussion with Darrell Gallup, new state soil scientist in Idaho, who is going on a study and advisory tour in East and West Pakistan, Iran, and Turkey. This was arranged under CENTO to plan soil survey and land classification. Gallup had already completed a long successful tour in Thailand.

March 17 I worked as rapidly as possible during the morning to work out cost estimates for completing the publication of soil surveys to a current basis. This was urgently recommended in the new report of the White House Committee on Rural Development. I was pleased with this recommendation because it emphasized the National Cooperative Soil Survey and emphasized map preparation as opposed to just the field mapping. Several on the committee were outside people with whom I had worked for several years.

Just as I had this done for typing (copy attached) Hub Alloway came in and we had lunch together. He asked me to give him a full statement of the

STATEMENT ON IMPLEMENTATION OF RECOMMENDATION NO. 71 IN
CHAPTER XI IN THE REPORT OF THE PRESIDENT'S TASK
FORCE ON RURAL DEVELOPMENT, March 1970

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Background:

People living in some areas that are undergoing highly significant changes in land use lack soil surveys essential to planning. These areas are gradually being covered with soil surveys. Field mapping in the United States is progressing at the rate of about 50 million acres annually. Now soil surveys are being completed in the field for publication at the rate of 65 areas, mostly counties or units of comparable size comprising about 33 million acres.

The most urgent problem now is the preparation of the soil maps and text, and the printing, of about 375 areas for which fieldwork has now been completed.

Implementation:

The reduction in the backlog of 375 unpublished soil surveys could be accomplished economically by the end of fiscal year 1975, as well as the preparation and printing of 65 new surveys becoming available each year.

In addition to the amounts in the 1971 budget for Soil Survey, \$21,060,000, this would call for additional appropriations for the cartographic and editorial work, and printing as follows under two alternatives. Each of these increases is given below, and is over what we expect to spend on this work in fiscal year 1970, which is \$2,987,100.

A. Alternative 1.

| | | |
|-------------|---|---|
| Fiscal 1971 | - | \$2,000,000 (this would require a supplemental appropriation) |
| Fiscal 1972 | - | 3,500,000 |
| Fiscal 1973 | - | 5,000,000 |
| Fiscal 1974 | - | 4,200,000 |

B. Alternative 2.

| | | |
|-------------|---|-------------|
| Fiscal 1971 | - | No increase |
| Fiscal 1972 | - | \$2,900,000 |
| Fiscal 1973 | - | 3,300,000 |
| Fiscal 1974 | - | 5,000,000 |
| Fiscal 1975 | - | 3,500,000 |

bcc:
Kellogg
Hockensmith (2)
Johnson
Koechley
Klingebiel

cc:
C. H. Dorny

origin of the early efforts on soils and nutrition in the Soil Survey that led to the laboratory at Cornell. E.C. Auchter had stolen this -- ideas and all -- from me and the Soil Survey about the same way that ruffians rob banks. My statement to Alloway is attached.

Fortunately he left about 12:30 which gave me time to go over the typed statement I had worked on in the morning and get the 1:40 bus to Hyattsville for our regular Soil Survey scheduling conference.

Mommy and I left home a little after lunch, March 18, and drove to Gettysburg, Pennsylvania. It rained all of the way and the Gettysburg College campus was soaking wet.

We were put up in a motel and had dinner with some students and a professor and his wife. We then went over to the campus and I gave an NSF lecture on the potential arable soils of the world and what would be necessary for their use. There were about 65 biology students. Their honor society -- Beta Beta Beta -- made all the arrangements. I was told there would have been more townspeople had the evening not been so miserable. I was well impressed by the students.

The next day, March 19, Mommy drove me back to the office and I handled a heavy accumulation of letters and memos.

The next day, March 20, I had another conference with Martin Kriesberg about AID supporting the World Soil Geography Unit.

In the afternoon I completed the statement that Dr. Alloway had requested on the origin of the research on the relation between soils and food quality.

Saturday, March 21, I worked all day finishing the spring cleanup of the garden. The following day I removed the hemlock back of the oak tree in front in the morning. Then it rained.

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The Beginning of USDA Research in Soils and the
Nutritional Quality of Plants

For several years before and after coming into the Department of Agriculture, I had been interested in the influence of soils, and their management, on the composition of food and fodder crops. In Michigan, Wisconsin, and especially North Dakota, certain relationships seemed evident, including phosphorus deficiencies in animal feeds. Some of the books by dentists, anthropologists, and others pointed out interesting relationships. Then too, Sir John Boyd Orr (Lord Orr) published his Minerals in Pastures and other interesting papers that brought out these relationships.

Late in May 1936, I took a boat from New York to Puerto Rico to look at the final stages of our first complete soil survey of the Island.

On this trip I took along a most interesting new book, Race, Sex and Environment: A Study of Mineral Deficiencies in Human Evolution by J. R. de la Marett. During the tours within Puerto Rico, which is really an outdoor soil museum, I could easily recognize the relationships among the children that this book had emphasized. On the dry end of the Island the children's legs were straight; on the wet end they were bowed.

When I returned, I loaned this book to Secretary Henry A. Wallace. He became very excited about these sorts of relationships and their importance. Obviously if understood, much could be done to improve the nutritional quality of foods and feeds. We discussed them a little and he suggested that I put forward a research project to explore them. I knew that to get this done we should need to start with a serious review of the literature.

Time dragged on. Early in 1937 I met Secretary Wallace in the stairway. He stopped and asked me, "How is your project on soils and nutrition coming?" I had to tell him, "Nowhere."

He asked me, "Can I do anything to help?" I replied, "Certainly you can. You might call Dr. Jardine (James T. Jardine, then Chief, Office of Experiment Stations and Director of the Special Research Fund) and suggest that he approve the project that he has had on his desk for several months."

The very next day, Dr. Jardine called me over with many apologies to discuss this project, which he approved at once.

I recommended to Dr. Henry G. Knight, Chief, Bureau of Chemistry and Soils, that Kenneth C. Beeson be placed in charge. Beeson was

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a chemist in the Bureau with a good reading knowledge of several European languages. He had also been studying soil science in evening classes of the USDA Graduate School.

Beeson worked diligently on this review. His office was next to mine and we discussed the work frequently. I helped a bit with the search for data. Also, Dr. C. A. Browne, a distinguished carbohydrate chemist, was helpful to us.

(Finally, after considerable delay, this work of Mr. Beeson was published as Mineral Composition of Crops with Particular Reference to the Soils in which they were Grown, Misc. Pub. 369. USDA, 164 pages. 1941).

On October 16, 1938, the soil research of the Bureau of Chemistry and Soils was transferred to the Bureau of Plant Industry, headed by Dr. E. C. Auchter. Shortly thereafter, he asked me which were the two most important pieces of research in soil science that should be emphasized. I suggested (1) the serious problem of phosphate fixation in soils and (2) the relationship of soils and their management to the nutritional quality of foods and feeds. He asked me then for a full memorandum on each of these problems.

Dr. Lyle T. Alexander helped me with the statement on phosphate fixation and Mr. Beeson with the one on soils and nutritional quality of foods and feeds. I gave them to Dr. Auchter.

Some few weeks later he called me over to his office and handed me a typed manuscript and said, "I wish you would take this manuscript into the empty office next door, read through it rapidly, and bring it back so that we may discuss it."

To my amazement it was simply a reworking of the memorandum I had given him earlier on the relationship of soils to food quality. It was to be the paper he gave as Chairman of the Section on Agriculture of the AAAS Meeting in December 1938.

I did point out to him that others had already published some ideas in this area. So he called in his secretary, and I gave him several references, which I could remember off hand. Dr. Auchter directed her to get these from the Library.

In the meantime, Auchter was preparing justifications and appropriation requests for the Plant, Soil, and Nutrition Laboratory to be at Cornell. Neither Mr. Beeson nor I knew anything about this until its presentation to the Sub-Committee on Agricultural Appropriations of the House, early in 1939.

After that, I had little official connection with the research on soils, plants, and nutrition, except for occasional meetings of an advisory committee. After a few years, my name was dropped from that small function. I did, however, maintain some professional conversations with Beeson and with several other members of the staff.

Not until sometime in the 1950s, after the Soil Survey was moved to the Soil Conservation Service, was I able to reestablish some form of official liaison between the Soil Survey and the research at the Laboratory by headquartering one of our research scientists there, together with some additional funds. This arrangement continues now.

March 23 and 24 I dealt with my mail and finished a speech on "The Soil Survey and zoning" for a meeting sponsored by the national real estate boards in Washington May 25.

On March 25 I worked on the text for a brochure on The Soil Survey *(New, completed as brochure)* and town- and country planning. I was notified by telephone that I had been appointed to a new USDA interagency committee of the library. I had been warning the Secretary's office for some time of the decline in the Library. I was worried: Could I keep my temper?

March 26 I considered candidates for a top advisory soil scientist to help India and continued work on the brochure. That evening I talked with Foster Mohrhardt about the terrible situation of our Department Library. He felt very badly about the whole mess.

Friday, March 27, I spent several hours making a statement for the Library of Congress on the amount of annual sedimentation in the US and its origin. Then in the afternoon I reworked the brief statement on Soil Survey dated 17 March, 1970 in order to include also estimates of costs to complete the Soil Survey in the US by about the year 2,000.

Saturday, March 28, I worked in the garden from 7:00 a.m. to 5:30 p.m. with Mommy helping. We fertilized and mulched with compost the azaleas and other shrubs south, east, and west of the house. We also transplanted an azalea and a Chinese holly into the front.

The following Sunday it rained nearly all day. Bill Johnson was here for dinner chez nous.

Monday, March 30 we started new office hours -- 8:15 to 4:45. It was a very busy day. The boys had sent out a checklist for Soil Survey manuscripts that had a serious error that had to be corrected. We got up some examples for Cowden's office on achievements in rural development. I also received several documents from Mrs. Bruno on the Library.

We got a longer answer of the President's Commission of Rural Development. (Attached) Most of this work continued into the following day with the usual mail.

April 1 I spent quite a bit of time with Mr. Dave Slusher, state soil scientist of Louisiana who is going to Liberia to help them set up a soil survey for development. It might be rough since this was one of the most badly governed countries in Africa.

Then Ken Grant called me in to show me a letter from Tinsley of the Upper Darby office saying that the northeast states were getting poor cartographic service. This was simply a continuation of the huge lie E.A. Norton promoted about 1955. So I asked Koechley and Gockowski to assemble the facts. They will show this to be absurd.

Also I had a call from FEDS that AID was going to reprint the long article by Kellogg and Orvedal in "Advances in Agronomy" in both English and Spanish.

Also I had a talk with Dr. Dever of our Soil Survey laboratory at Beltsville about the USDA library. He had been sitting on a committee of the scientists at the Plant Industry Station. They had about given up having any service.

I also learned that a considerable research staff in the Forest Service was then planning to move to the University of Wisconsin. The library there agreed to give them good service.

To cap things off I had another memo to Grant from the field representatives -- most likely Jaedicke -- to change the rules so that the cartographic unit would be required to transfer the lines on field sheets to high-altitude photos. This could not be done without another large increase in cartographic staff so Koechley and Gockowski had to get the data for this.

STATEMENT ON IMPLEMENTATION OF RECOMMENDATION NO. 71 IN
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Background:

People living in some areas that are undergoing highly significant changes in land use lack soil surveys essential to planning. These areas are gradually being covered with soil surveys. Field mapping in the United States is progressing at the rate of about 50 million acres annually. Now soil surveys are being completed in the field for publication at the rate of 65 areas, mostly counties or units of comparable size comprising about 33 million acres.

1. The most urgent problem now is the preparation of the soil maps and text, and the printing, of about 375 areas for which field work has now been completed.

Implementation:

The reduction in the backlog of 375 unpublished soil surveys could be accomplished economically by the end of fiscal year 1975, as well as the preparation and printing of 65 new surveys becoming available each year.

In addition to the amounts in the 1971 budget for Soil Survey, \$21,060,000, this would call for additional appropriations for the cartographic and editorial work, and printing as follows under two alternatives. Each of these increases is given below, and is over what we expect to spend on this work in fiscal year 1970, which is \$2,987,100.

A. Alternative 1.

| | | |
|-------------|---|---|
| Fiscal 1971 | - | \$2,000,000 (this would require a supplemental appropriation) |
| Fiscal 1972 | - | 3,500,000 |
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| Fiscal 1974 | - | 4,200,000 |

B. Alternative 2.

| | | |
|-------------|---|-------------|
| Fiscal 1971 | - | No increase |
| Fiscal 1972 | - | \$2,900,000 |
| Fiscal 1973 | - | 3,300,000 |
| Fiscal 1974 | - | 5,000,000 |
| Fiscal 1975 | - | 3,500,000 |

2. Completion of the National Cooperative Soil Survey.

Implementation:

Certainly the people of the United States should look forward to the completion of soil surveys for essentially all lands. (Some of the remote mountainous and desert areas need only small-scale exploratory maps.)

Table 1 gives the acres of existing soil maps suitable for most current needs. These cover about 42 percent of land suitable for farming, ranching, forestry, and urban development.

Table 2 gives projected estimated costs in terms of current dollars for completing soil surveys by the year 2000. This estimate includes some revision and resurveying of areas that will inevitably be expected to be changed from the low intensity use, contemplated when the soil surveys were made, to higher intensities of use for farming and especially for industrial and urban development. It would be unnecessarily wasteful to make soil surveys with enough detail everywhere to meet the most exacting needs for planning. For example, in the dryland areas of the Great Plains we do not need to map all of the land in the detail required for intensive irrigation development. It is far cheaper to remap those parts that subsequently become irrigated in the detail required, with the necessary depth and frequency of soil examinations. The same principle applies to soil surveys used for the planning of new cities and for town-and-country planning.

The table also assumes a reasonable continuation of direct assistance through trust funds by state and local governments. It assumes that some other funds of the Soil Conservation Service will be used to speed up work in watershed and other projects. It is assumed that the state experiment stations, state highway departments, and other state agencies will continue to contribute to the work at roughly their current levels of expenditure. The same assumption has been made for the Forest Service, Bureau of Indian Affairs, and other federal agencies.

STATUS OF SOIL SURVEYS IN ALL STATES AND CARIBBEAN AREA

June 30, 1969

Table 1

| Type of Soil Survey | Total Acres to be Mapped | Total Acres Mapped | Total Acres Remaining to be Mapped |
|------------------------------|-----------------------------|--------------------|---------------------------------------|
| Detailed | 1,256,326,669 | 751,590,364 | 504,736,305 |
| Reconnaissance | 578,054,685 | 24,754,559 | 553,300,126 |
| TOTAL (Detailed & Recon.) | 1,834,381,354 ^{a/} | 776,344,923 | 1,058,036,431 |

Percent of all soils mapped - 42 percent

^{a/} Does not include small-scale exploratory soil surveys in isolated mountainous and other wild country, as parts of Alaska, the high Sierra Nevada, and deserts.

TABLE 2. PROPOSED FUND ALLOCATION BY FEDERAL, STATE, & LOCAL GROUPS PARTICIPATING IN THE NATIONAL COOPERATIVE SOIL SURVEY

| | 1970-75 | 1975-80 | 1980-85 | 1985-90 | 1990-95 | 1995-2000 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| Conservation Operations (Budget Authority) | \$118,727,000 | \$128,400,000 | \$131,600,000 | \$134,400,000 | \$123,300,000 | \$123,300,000 |
| Reimbursable & Trust Funds to SCS (States, counties, towns, planning com., soil conserv. dist., individuals, etc.) | 6,500,000 | 7,500,000 | 7,500,000 | 5,000,000 | 3,000,000 | 3,000,000 |
| Other SCS funds (RCD-25, WP-08, FP-03) | 6,558,000 | 6,150,000 | 4,400,000 | 2,010,000 | 715,000 | - |
| State Experiment Stations, ^{a/} state hwy's., Dept. of Land Surveys, & other state agencies | 10,000,000 | 10,000,000 | 12,000,000 | 12,000,000 | 10,000,000 | 10,000,000 |
| Other federal agencies ^{a/} (Forest Service, Bureau of Indian Affairs, Env. Service) | 3,125,000 | 3,125,000 | 3,125,000 | 2,875,000 | 2,000,000 | - |
| (Acres mapped and published) ^{1/} | 250,000,000 | 250,000,000 | 250,000,000 | 250,000,000 | 250,000,000 | 250,000,000 |

^{a/} Estimated spending by.

^{1/} The total of 1,500,000,000 acres planned to be mapped from 1970 to 2000 is made up of 1,058,000,000 that remains to be mapped as of June 30, 1969 (see Table 1) and an estimated 442,000,000 acres of revisions and resurveys.

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Thursday, April 2, although a busy day I took out a couple of hours to have lunch with Mommy, Robert, and Joan at the Cosmos Club.

Friday, April 3, I talked with Louis Derr about the very loose handling of soil surveys and other work in Virginia after I looked over his report. It was clear that the soil scientists were not meeting their goals and the administrators there didn't know it. In the areas of developing towns and suburbs about the only thing the district conservationists were doing was the completely unnecessary job of arranging appointments with the town boards for the soil scientists and engineers. This situation was so bad that I routed the report to Van Dersal, Berg, and Grant with a brief covering memo, clearly marked "For official use only," that it seemed a full state field review was called for. Later in the day I discovered that Berg gave a copy of this memo to the state conservationist of Virginia, who just happened to come into his office, before Grant saw it. He came down to Derr and gave him Hell. So I saw that Berg could not be trusted with such a memo.

But on the better side, Borny told Bill Johnson that the Secretary's finance officer assured him extra personnel ceiling for 41 employees we need in the Cartographic Division for preparing soil maps!

A little while after lunch I attended the regular staff meeting of the SUS Division of Information where John Sherrod, Director of the Library, was the speaker. Happily he did not recognize me. He put on quite a good show except that what he said wasn't true. Yet from his answers to the questions it was clear that the Service could not expect any help from the Library.

Saturday, April 4, Mommy and I finished adding fertilizer and compost to all the azaleas.

Sunday, April 5, between 7:00 a.m. and 3:00 p.m. I moved several azaleas and a few other plants.

Monday, April 6 was mainly a usual office day. I talked with Bill Davey about the second draft of the planning handbook and explained that none of the basic principles of planning was brought out. He asked me if I would prepare a statment of the five most important ones.

I dictated the next day about a 10-page statement. I went over it that evening and again the next morning and a fair copy was made and given to him.

That afternoon I went out to our usual scheduling conference at Hyattsville.

Thursday, April 9, I had a brief conference with Grant on firming up the use of Dr. Cline next year on revising the Soil Survey Manual. He also approved a position for John Track from World Soil Geography to Soil Survey Manuscripts.

Friday, April 10 I went to the National Agricultural Library for the first meeting of an interagency advisory committee. Except for the chairman and the librarian each of the others represented one major section of the Department. For me this included besides SCS, Farmer Cooperative Service, Farmer's Home Administration, Forest Service, and Rural Electrification Administration. Ralston handled the meeting very well. It was obvious that all except the librarian felt that he had managed things badly by changes that were never discussed in advance. It was clear to me that he and his two young deputies were primarily interested in computers and relations with other libraries. They had no concern with nor knowledge of the library service needed in USDA. I feared it my be hopeless to train them; but it would need to be tried.

That evening the Dykes had dinner chez nous.

I worked in the garden all day Saturday, April 11 and until noon the next day. I set out all of the 2-year azaleas -- about 24 of them. Sunday evening we had dinner chez Johnson.

Monday, April 13, I sat up a subcommittee among all the agencies in the group to advise me on their library needs.

Tony Vrana and I had a 3-way telephone conference with Cline.

Nobel Clark came in for a chat.

Wednesday, April 15, was a normal day for the office. I revitalized our SCS library committee. It was organized at the time of a snafu caused by the previous Assistant Secretary under Benson -- Roberts. This one is apparently worse.

That evening Mommy and I were visiting just before dinner about the proposed 25-year anniversary of the organization meeting of FAO at Quebec, October 16,, next. Suddenly we heard a commotion on the back porch. We rushed out with Mommy in the lead. Some boys were there and pointed to Shem hanging by his harness in the bushes. Mommy reached for him. He was so frightened from the dog that one of the boys had had earlier that he scratched her right arm terribly -- although I didn't realize it at first. I gathered him in my arms and took him to the basement and then discovered that Mommy had some terribly deep scratches. I ran across the street and got Rita Toomey -- a nurse. She came over and dressed it and talked to the physician in Group Health.

When I went to look for the kitty he had hidden himself. He knew he had done something terrible. It was a hectic time. When Mommy went to bed the kitty laid right next to her all night with scarcely a motion.

Thursday, April 16, Mommy went to the physician and I went to the office. Arrangements were completed for the library committees. Ralph Phillips had received forms from FAO to be filled out by those interested in exchanging soil data with them. We made copies and sent one to about 17 or 18 state experiment station directors along with copies for their soil science department heads. The plan was for my office to gather all of thereplies and send them to Phillips for forwarding to FAO.

April, 1970

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Friday morning, April 17, Robert W. Eikleberry was here and we had a considerable discussion about training in planning for soil science. Bender had just completed this session at Portland. Eikleberry was there and so was Murray, who had been the training officer at Portland and just moved to the Washington office.

Besides the usual memos and letters I worked some more on the library problem. Mommy's arm was better.

On April 18 and 19 I worked in the garden. I quit about noon on Sunday.

Monday, April 20 I drove to the office in heavy rain. I talked about the Library with Mr. Terry, head of the law branch. Routine memos.

Next day, Tuesday, was a usual routine day. I had about two hours with Mr. Kester, an SCS soil scientist from California who had been working in northern Mysore State (India) for irrigation during the dry periods. Although moving slowly he seemed satisfied and would return after home leave.

Wednesday, April 22, I called Ackerson and reminded him to give very high priority to a usable, small-scale world soil map to replace the older one. (Orvedal and Rourke made one but forgot to check it carefully -- Orvedal's greatest mistake since I've known him.)

That day I had a meeting on the Library with the representatives of the agencies that report to Dr. Cowden, which went all right. Orvedal gave me a memorandum for Grant on SCS plans for the natural resources satellite. He did it very well.

April 23 Mommy took me to Group Health very early for a shot in my shoulder; and then to Hyattsville. I spent the day there with Grant, Berg, Johnson, and Kelley. The boys in Cartographic did a wonderful job explaining their work. In Soil Survey Editing most did well except for McSweeney.

Friday, April 24, I was very busy with memos and papers which accumulated the day before. After lunch I cleaned up my desk and at 3:00 Orvedal and I were in the AID offices at 1141 Vermont Avenue. Presumably this conference included the heads of field bureaus to talk about the use of small-scale soil maps. It seemed to me to go a bit poorly because by their questions it was clear that none of them knew much about science or planning. I thought we should need to write out some examples. Obviously they had no idea what a soil map was nor the principles of soil classification.

Saturday, April 25, I worked in the garden from 6:30 a.m. to 3:30 p.m.

Sunday I worked a bit in the garden and showed a neighbor how to transplant azaleas.

Monday, April 27, I had a most difficult letter based on a high school student's inquiry to a congresswoman about soil erosion, the kinds of soil pollution, fertilizer use, and so on in the US and the rest of the world. I simply had to do it myself. I also had a little over an hour with Smythe of FAO about soil surveys in general and soil interpretations in particular.

Tuesday, April 28, I spent much of my time on the problem of speeding up and improving the publication of soil surveys. The senior staff of the Soil Survey had a special luncheon with Grant and Cowden. It was very pleasant.

April 29 was an usual day. We were having trouble finding a competent soil scientist to go to India to replace Coover.

Thursday, April 30 was another usual day with memos, letters, and writing. In the afternoon I had a meeting of the SCS Library Committee. No one had any different ideas.

Friday, May 1, we had a long meeting for most of the forenoon of the main interagency advisory committee on the Library. This included a look at the stacks at those books left for ERS. They certainly were in a mess. There were many statistical series. Also there were a lot of books that had

only a distant relationship to economics. A decision was made to leave a good reading room to serve both the South Building and the Administration Building with appropriate encyclopedias, biographies, bibliographies, dictionaries, and the like and a good assortment of journals. It was agreed to move the books in the stacks to Beltsville and to leave only the law library. There was pretty firm discussion about priorities and the importance of cleaning up the stacks and the cards in the main library and to improve the service. Sherrod agreed to send us drafts of a little booklet to explain the Library to USDA employees and a draft of a form and a policy statement for stack privileges. We also urged better security at the library. We asked him to suggest a procedure that would penalize users who mutilate or lose books.

In the afternoon I cleaned up the accumulation.

Saturday, May 2 I worked in the garden most of the day.

Sunday, May 3, it rained in the morning and I worked in the garden in the afternoon.

Monday, May 4, was routine except for a small party in the FAO regional office.

May 5, I had a talk with Hans Hirsch who is going to Congo (Kinshashi) to study cooperatives. He knew nothing about the Congo and it was hard to see how he could help the co-ops. The rest of the day was routine with a little writing and I went to a Red Cross dinner with Mommy at Andrews Air Force Base.

May 6 was routine plus scheduling conference at Hyattsville, except that I finally got through to the Academic Press. Certainly they were difficult.

May 7 I had a chat with Eduardo Melendz of Chile about Soil Survey and its application.

May 8 I had a long conference with a group of Hungarians here under the sponsorship of the Ford Foundation. The rest was routine. In the evening

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May 1970

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Mr. and Mrs. Ben Miller came to see the garden and the books.

Most of the weekend was spent gardening. The azaleas looked good except for the unseasonal heat.

May 11 normal routine and a bit of writing.

May 12 I gave a seminar in the Service on town-and-country planning. (All during these weeks until the end of the fiscal year I had almost daily budget problems.) That day I talked confidentially with Grant about possible retirement around February 15, 1971. He said that some objected to Bill Johnson. I knew that all this stemmed from one person -- Dale Jaedicke, but not why.

May 13 Orvedal and I had another talk with Kreisburg about soil maps for AID.

In the afternoon I had a long talk with a Bulgarian delegation about soil surveys and their application in farming, engineering, and in town-and-country planning.

May 14 I had a long and useful talk with Charles Hardin and did a bit of writing plus routine. In the evening Mommy and I went to a reception at the Bulgarian ambassador's residence.

Friday, May 15, I had a long talk with Dorny about funds for contracts and Soil Survey printing. I worked late in the garden.

May 16 all day in the garden and in the late afternoon on Sunday after a rain.

May 18 and 19 mostly routine with a bit of writing. I was pleased that Art Greely and Dr. Phillips got gold medals.

May 20 annual leave and all day in the garden with the azaleas.

May 21 Soil Survey scheduling; and a long talk with Gallup about his trip to Pakistan and Turkey; and then a long conference in the Service on "the environment."

May 22 was a usual day with many books and people. I started a paper on "The National Cooperative Soil Survey *(Revised in with paper)* and the human environment." *(A)*

May 23 in the garden until 2:40 p.m. and then to the SCS picnic. Mr. and Mrs. Derr, Mr. and Mrs. Van der Voet, and Mrs. Sawyer stopped for drinks and talk until about 10:00 p.m.

May 24 worked in the garden until late afternoon. Dwight E. Smith came to study Joyce.

May 25 I went to the National Institute of Farm and Land Brokers. I gave them an address on the nature and application of soil surveys with special reference to town-and- country planning. It went well. The other speakers were from HUD and I learned more about their program.

May 26 was very busy with numerous difficult letters. I worked some on a speech to give at Clemson.

May 27 I worked on Soil Survey work plans, a bit on the speech for Clemson, many letters and dictated a paper on the use of soil surveys in all the SCS-PASA work with AID.

In the evening Mommy and I attended a "do" chez Coustry.

May 28 many memos and conferences, and acting Administrator. Was very tired that night.

May 29, 30, and 31 were long hard days in the garden -- cleaning gutters, prining ivy, treating the lawn against billbugs, and finished pruning azaleas except for the very late ones.

June 1 and 2 were routine and a little writing.

June 3 very heavy mail and some difficult personnel problems. Had a good conference with Dr. B.P. Ghetdyal, professor in U.P. in India.

June 1970

June 4 very heavy mail. I wrote a memo to Grant about a new position for Frank Newhall.

June 5 I finished the Clemson speech and more on the environment. In the late evening Guy Smith called and in a faltering, uncontrolled voice (too much to drink!) explained he would be late with the book on soil taxonomy promised for autumn. He had been doing too much unnecessary travelling I feared.

June 6 and 7 in the garden.

June 8 routine and budgets.

June 9 the FAO interagency committee had some items sprung on it.
(See attachment)

June 10 I made a short statement on accomplishments in the Soil Survey since 1 January. Hyattsville office in the afternoon.

June 11 USDA library committee met and reversed itself, against my vote, on moving all the economics books to the library. I favored leaving law and statistics only.

We appointed Jacobson as Assistant Director of the Cartographic Division.

Grant agreed to the new position for Newhall. In return I released to him a GS-14 position of Bob Ruhe.

June 12 Rudy Ulrich dropped in for a chat. His arm was still in bad shape.

June 13 and 14 in the garden until about 9:30 a.m. Sunday. Read and rested and dinner Sunday evening chez Johnson..

June 15. Heavy routine.

June 16 a usual day except that it was Bloomsday. Mr. and Mrs. Dykes and Mr. and Mrs. Johnson had dinner chez nous. The Dykes had just returned from a boo^k-buying expedition in Ireland, Scotland, and England. He brought

1. The first part of the report is devoted to a general survey of the situation in the country.

2. The second part is devoted to a detailed analysis of the economic situation.

3. The third part is devoted to a detailed analysis of the social situation.

4. The fourth part is devoted to a detailed analysis of the political situation.

5. The fifth part is devoted to a detailed analysis of the cultural situation.

6. The sixth part is devoted to a detailed analysis of the international situation.

7. The seventh part is devoted to a detailed analysis of the future prospects.

8. The eighth part is devoted to a detailed analysis of the conclusions.

9. The ninth part is devoted to a detailed analysis of the recommendations.

10. The tenth part is devoted to a detailed analysis of the summary.

11. The eleventh part is devoted to a detailed analysis of the appendixes.

12. The twelfth part is devoted to a detailed analysis of the bibliography.

13. The thirteenth part is devoted to a detailed analysis of the index.

14. The fourteenth part is devoted to a detailed analysis of the list of tables.

15. The fifteenth part is devoted to a detailed analysis of the list of figures.

16. The sixteenth part is devoted to a detailed analysis of the list of maps.

17. The seventeenth part is devoted to a detailed analysis of the list of abbreviations.

18. The eighteenth part is devoted to a detailed analysis of the list of symbols.

19. The nineteenth part is devoted to a detailed analysis of the list of acronyms.

20. The twentieth part is devoted to a detailed analysis of the list of initialisms.

21. The twenty-first part is devoted to a detailed analysis of the list of abbreviations.

22. The twenty-second part is devoted to a detailed analysis of the list of symbols.

23. The twenty-third part is devoted to a detailed analysis of the list of acronyms.

24. The twenty-fourth part is devoted to a detailed analysis of the list of initialisms.

25. The twenty-fifth part is devoted to a detailed analysis of the list of abbreviations.

26. The twenty-sixth part is devoted to a detailed analysis of the list of symbols.

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SUBJECT: Meeting of U.S. FAO Interagency Committee
9 June 1970

DATE: 9 June 1970

TO: Files

Dr. Phillips and Mr. Gibb gave more or less routine reviews of the recent discussions and problems of the FAO Program Committee and Finance Committee.

There was a brief explanation of the plans for the meeting in Quebec on 16 October next. Apparently quite a few people are going to be there and may overwhelm the number who actually attended the first FAO conference in Quebec 16 October 1945.

There was quite a discussion of the second World Food Congress to be held in Dan Haag, Holland. I had had a letter a long time ago from someone in FAO that I would be invited to this conference and put it in my diary schedule along last December or so. I heard nothing more about it until today. The whole development of this delegation apparently was handled nearly secretly by the staff in the Secretary's office. Mr. Mair reported that American participation was worked out confidentially with the DG of FAO. Mair told us that the DG asked for people like Hoffman and Rockefeller, who are well known. He also said that he wanted to emphasize youth. Then later on he said that a small group in USDA, State, and AID selected the ones going to Holland. These included Palmberg, A.L. Edwards, Quentin West, plus some others unspecified from USDA, three from Interior, and four from AID. He also said that somewhat over 100 would be going from U.S., including 20 or 30 youths. I am assuming that some foundation or other is picking up the tabs for most of these outside of government.

Mair also said that they now have a team (?) working on a paper about the work of USA in FAO. He said that the paper should explain what "USA gets out of FAO." Another member and myself disagreed with this point of view.

Then Mair pointed out that FAO was less popular in the U.S. than formerly. I could not resist pointing out that most people in the U.S. did not even know what the letters stood for. No publicity about it had originated in FAO or USA designed to reach the great

me a nice book off my list -- Red as a rose is she.

June 17 and 18 conference with the Director-General of Development in Malaysia. Routine work and sorted maps.

June 19 Van Dersal sent a memo to those working with data processing saying that the Service had had bad service from the Data Processing Center and asked for detailed examples of bad service. We, in the Soil Survey, had had excellent service. I discussed this with Grant and explained that this was simply a bureaucratic ploy to build up such a center in the Service which we did not need.

June 20 garden in the morning and USDA library in the afternoon.

June 24 I worked in the garden for a while and then on this c.v.

About 5:45 Mommy took me to National Airport. I checked in leisurely and went aboard the plane. Just before we left I was paged. Someone had found my little notebook either in the waiting room or on the way to the plane. What luck!

We flew non-stop to Spartanburg and arrived on time, about 8:31 p.m. Mr. Hendricks met me with a lady called, Dr. Nestroper, a practising psychologist. Since there was no dinner on the plane I suggested we stop at a fruit store. But instead they took me to a friend's house for a steak and then they drove me to Clemson where I arrived about 11:45. During this whole period I could not recall a woman asking me more questions in three hours than this one. These dealt with literature, science, relations between the sexes, and administration.

June 22 I took a walk in the early morning and had breakfast with the students. These were selected high school students brought together in a Workshop for Youth by the State Conservation Commission. I not only prepared the address but also questions for an examination. The first prize was \$500 and four others at \$100. I addressed them on, Conservation

through town-and-country planning. My appearance had been arranged through Congressman Mann. I had been asked to speak on, "Youth and the environment," which I refused to do.

I thought the talk went over quite well and there was a good question period.

Then I made a long radio tape. A great many photos were taken. I saw Bill Latimer for a few minutes. He was then 87 yet he was planning a trip to England and Scotland in July with his RN attendant. Unhappily, U.S. Jones of Clemson invited me to the Rotary Club luncheon, which was a bore. After that I made three short TV strips and read a few minutes. D. Tom Edwards and two of the students took me back to the airport at Spartanburg. Mommy collected me at the airport in Washington and we were home about 8:00 p.m.

Tuesday, June 23, I cleaned up most of my mail and had time to get my glasses repaired.

June 24. Most of this day was wasted attending a boring "Civil Rights" conference in the auditorium. I suppose the Negro lecturers were sincere but their basic education was inadequate. They could only rationalize in emotional terms their own experiences. The really basic principles of civil rights were either misunderstood or unknown.

June 25 I had a nice conference with Dave Slusher (State soil scientist in Louisiana), who had just returned from four weeks in Liberia. I had read his report the first thing in the morning. It was good except for a few errors that would have embarrassed him later. The government there is very poor, as I had known, and it will be difficult to get anything going. Most of the money had from the big rubber plantations was squandered by the few in the upper class.

After lunch Guy Smith was in my office and I was dictating a memo to my secretary when Ken Grant called about a routine matter which obviously

was not on his mind. He raised a question or two and I told him, "You know, Ken, SCS is administered a great deal by rumors. I heard from another agency about SCS having a man assigned to Cowden's office." He said, "It was only official this morning." I replied, "Yes, that is the point, Ken." Then he commented on the bad news that Ogrosky was to retire. I felt I had talked enough in front of Smith and Pauline when he asked, "Do you know something that I don't know?" So later I went up to see him.

The trouble was that Hollis Williams felt that he should have been Administrator. I had no doubt that Don Williams promised it to him as he had others too. Ken said that he had made some terrible speeches lately lambasting other agencies. I explained that I had talked very strongly to Hollis about some of these things and had tried my best to help him because he had a lot of good characteristics. I explained that I was then afraid that both he and his wife had brooded about his disappointment so much that maybe the situation was hopeless. I even said, "You may have to replace him and that this job should be shared with Dr. Cowden. In the meantime do your best to get Clyde Graham here even though I am sure he wont want to leave Texas." Ken said, "He will have to come." Then I explained to Ken that much of his trouble was due to making too many decisions himself and not having regular weekly staff conferences with his deputies. I explained that I could have taken some of the heat off of him with respect to Hollis at such conferences but I had no chance. It is one thing for a man to argue with his boss but something else to argue against all his peers. I decided then that Grant had to learn this basic principle if he ever were to become a good administrator.

June 26 was mostly memos and routine. That day Al Foster retired.

June 27 mostly on my knees in the garden.

June 28 some in the garden and then reading.

July 1970

Monday, June 29, was routine plus the chores near the end of a fiscal year.

July 1 busy with usual routine.

July 2 routine and a little work on books. Koechley's retirement luncheon was at noon. In the afternoon were conferences and more memos.

Friday, July 3 was a holiday. I worked in the garden until about 3:00 p.m. Then I cleaned off the rods Mommy had bought me and painted them green.

July 4 Joel and Mommy mowed the lawn and we finished our garden work about noon which gave some time for me to finish Red as a rose is she.

Sunday, July 5 I worked a while in the garden and brought this c.v. up to date.

Monday, July 6, was mostly routine and cataloguing the books at the office. Vern Bathhurst came today to start his new job as head of a management division under Van Dersal.

July 7 considerable routine; worked on Soil Survey plan; and attended a conference on environment.

July 8 I had a long talk with Bathhurst and catalogued a few more books. In the afternoon I attended a rump session of the FAO Interagency Committee to hear reports by a few people who were at the Amsterdam International conference on Food. (See attached)

July 9 I took care of routine in the office in the morning. After lunch I had a session with Mr. Arrayo of Peru about soil research in his country and then attended a small "do" for Ryerson's retirement. At 4:15 we had a heavy rain with 2.6 inches at home that evening (plus 1.05 during the night.)

July 10 I saw a beautiful example of bureaucracy. As we drove by the administration building the sprinklers were on even though about half of the front lawn was under water.

July 8, 1970

SUBJECT: Second World Food Congress
Amsterdam, June 1970

TO: Files

Today we had a partial meeting of the FAO Interagency Committee to hear brief and discouraging reports about this food congress. Although FAO took part, it was mainly the responsibility of the Dutch Government.

Originally I had been told by FAO that I would be invited to go, but apparently the Department did not agree.

Don Parlberg made the initial summary. Many of the young people who attended lived in a special village furnished by the Dutch. He said many of the young people were idealists but there was a hard core of "leftists." I think he meant "revolutionary socialists." They passed out some final statements which did point out that many of the present governments in Africa, Asia, and Latin America had failed to take steps to correct the enormous injustices, exploitation, and discrimination. From the oral quotations I judge that some of these youngsters had read the recent book by Andre Frank. Of course, it is true that American business dominates most of the countries of Latin America with a far greater transfer of capital from Latin America to the United States for a small amount of aid furnished them by U.S. and FAO.

Don Parlberg said that FAO should stick to its own work of food and agriculture. I challenged this statement. I think FAO has to work with other agencies concerned with the industrial sectors of agriculture, finance, social security, labor unions, and so on. Apparently Parlberg had quite a time communicating with these young people who had done their home work better than he had. Cowden raised the problem of general agreement that the food problem could be met. A man from State said that certainly the experts agreed that it could be done. The world had the means and the knowledge. But he agreed with me that a great deal had to be done to get honest governments and institutions.

Somebody raised the question of waste. I pointed out that probably India has improved but that when I was there I estimated the waste between the fields and the kitchens at about 30 to 35 percent in the

Second World Food Congress
Amsterdam, June 1970

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...of the young people who lived in a special village furnished by the Bureau. He said that the young people were idealists but there was a hard core of idealists. I think he meant "revolutionary idealists." They

...a great deal had to be done to get honest government ... The world had the means and the knowledge, but it seemed ... I think that the experts agreed that it could ... of general agreement that the food problem could be met. I ... their hands were better than his. (Lindbergh raised his ... and after a time, remembering that there were people who ... food, health, security, labor unions, and so on. Lindbergh ... to others acquainted with the industrial situation at that time ... I challenge this statement. I think this was an error ... Lindbergh said that the United States was the best work of food ...

...I believe the ... I believe the ...

normal year and about 40 to 45 percent in a year of good rains. Then I pointed out to Parlborg that this has been one of the biggest factors in our own country. I asked him, "Why is it, Don, that the agricultural economists wrote so much about the release of land for food crops when there was a change from horses and mules to tractors, yet they have written absolutely nothing about the possibly greater effect of modern food storage and processing?" I said, "In fact, the Department of Agriculture has completely ignored the whole food processing and storage sector of agriculture as if it did not exist and never changed." He did not like that. He said we had not ignored it. I explained that we had not a single publication that I know of bearing on this question and I think it deserves high priority.

A fellow there from the State Department seemed to agree with me. He said he had a wonderful time with the kids. The trouble is the old story of treating everything they say negatively rather than explaining what they want could be accomplished, which it could.

Law

CEK

Charles E. Kellogg

July 1970
I had the usual routine and wrote a little on a book. Then I had some late conferences.

Saturday, July 11, I worked in the garden until 3:00 p.m. Robert, Joan, and Stephen came to get a chair. Bill Johnson came to put quarter round about the bathtub. Robert, Joan, and Stephen left about 8:30.

July 12 I worked in the garden in the forenoon and read in the afternoon.

July 13 was routine and a bit on the books in the morning. In the afternoon I had to go to a long discussion about what to do with the data from the so-called Conservation Needs Inventory. Since the data were not collected in relation to specific farms, and many of them without adequate direction, I have no faith in the results.

In the morning of July 14 we had an excellent technical seminar on flood insurance. I also dictated comments on the manuscript on economic development sent to me by V.W. Ruttan.

In the afternoon I went to Hyattsville for our Soil Survey scheduling conference. That evening Dr. and Mrs. Walter Russell came from Britain to stay chez nous for a brief visit in Washington.

July 15 usual morning routine. Luncheon with foreign public administrators in Washington on a training tour.

July 16 I lectured from about 9:00 to 12:00 to a group of foreign administrators including several from Thailand and one from the Philippines, Ethiopia, India, and so on.

In the afternoon I caught up on my correspondence. That evening Guy called very much upset at Kuykendal whom he thought had insulted him!

July 17 Walter Russell went in with me. I introduced him to some of the other boys. I got hold of Kuykendal and he and Guy got straightened out. Walter Russell gave us an exceedingly good seminar. I had asked him to begin with 2 or 3 hottest things in Britain in soil science. I think

everyone enjoyed the discussion that followed.

That evening Mommy had a big party for the Russells.

Saturday, July 18, Mommy took the Russells to their plane for Columbus, Ohio. It was nice having them here. Then I worked in the garden until about 4:00 p.m.

Sunday, July 19, I worked just a bit in the garden and then read. In the late afternoon we went to see the Dykes. Mrs. Dykes took us to a birthday dinner for Jefferson.

July 20 I had the usual routine at the office and went as the guest of Hollis Williams to a big retirement party for Ogrosky and Fetzner.

We had another nice rain.

July 21 several of us had a long conference with Olson and Glazebrook of the Forest Service about their urgent need for reconnaissance surveys. They talked about "land-type" surveys which would be well nigh useless to them and to others. I explained to them that unless they used named soils at the family or sub-group level they would have no way of using the accumulated data about soils. They are terribly pushed for data of some sort to prepare the large numbers of "environmental" reports being required.

In the afternoon I got a little done on the books.⁴

July 22 routine and conferences with some work on the books, especially sorting out the pamphlet collection.

July 23 we all had a long morning staff conference with Verne Bathurst. We explained our planning procedures in the Soil Survey.

July 24 I had an interesting forenoon with a young man Daljit Aurora -- a collector from Andhra Pradesh. He is one of the more judicious Indians I have talked with about planning for agricultural development.

I did a little work on the books in the afternoon plus a few conferences and visited Dr. Rosenbaum for a medical examination.

4) Sorting books at office

July 1970

Saturday, July 25 I worked in the garden until 2:00 p.m. Robert and his family came about 4:00 with an azalea and a pine seedling to be planted. After dinner we all went to the Johnsons for the evening.

Sunday, July 26 I worked out for a little while in the morning. Mary Alice and her children came for dinner. Robert left for Charlottesville about 6:30.

July 27 I had conferences, routine, and about 4 hours on books. It was very hot.

July 28 I first went to Group Health for X-rays and tests. I prepared two short items to go to the White House staff -- one on soil blowing in relation to air pollution and another on the principles of town-and-country planning for population dispersal and economic growth.

After lunch I wrote a justification statement for use of carry-over funds in River Basins for publishing soil surveys. I got a little more done on the books.

July 29 I started another paper on town-and-country planning and got a bit done on the books in addition to the usual routine.

July 30 there was heavy mail and I had to prepare background material for use by Americans to be present at an FAO Far East Regional Conference.

July 31 again very heavy mail. (This was worse with my secretary away all this week and most of the next.) We had a large Soil Survey staff conference from about 1:00 p.m. to 4:00 p.m. We discussed special goals for fiscal 1971 and assignments.

Saturday, August 1, we trimmed the ivy on the house and had a very hot day in the garden until 4:20.

August 2 I worked in the garden until about 10:30 and then read. Mr. and Mrs. Dykes came about 5:30 p.m. to help celebrate my birthday.

August 3 another heavy load of mail and routine conferences.

August 4 I staid home and worked in the garden, especially separating plants in the rock garden.

August 5 I had an enormous pile of routine memos and mail. Also I helped Floyd Campbell a bit on his long-range plan.

August 6 I worked in the garden until about 1:00 p.m. Classified a few books and brought this c.v. up to date. About 2:00 p.m. Johnson called to say that the Service may need to absorb all the pay costs. If so this would blow up the plans toward getting current on soil survey publication.

August 7. Routine at the office with some refiguring because of adsorption of pay costs. Our engineers are a bit touchy about helping with soil survey interpretations. We had a nice rain at night.

August 8. Most of the day in the garden. Dinner chez Orvedal.

August 9. A little in the garden but mostly with books and reading.

August 10. I drove to the office and found an illegal parker in my space. Mostly routine with a little urging to Bill Johnson to work a little harder on his own assignments.

August 11. Routine. Worked a bit on a speech I had to give on soils for the Graduate School. Dr. Raychaudhuri's nephew called and wants a job. This will be very difficult right now because of his lack of field experience of any kind.

August 12. Much mail but mostly routine. I had an unsatisfactory conference with an American working in Latin America -- Daggett -- on how to make soil surveys with only high school students!

August 13. Routine plus some budget trouble. Either Grant's office or Dorny's office lost the memo I saw Grant sign on 19 February last, allotting about \$47,000 for soil geography.

August 14. Routine. Brought a lot of books home. Robert came in the evening planning to drive to Boston the next day.

August 15. Garden in the forenoon and work on books and maps in the afternoon.

August 16. A little more work on classifying books and maps but mostly reading.

August 17. Routine at the office and had a talk with Coover, who had completed a long assignment in India and will now work for Bartelli at Ft. Worth.

August 18. Routine. I finished a speech on soils and rhododendrons for October 4 and on soils for October 5 in the USDA Graduate School seminar on "ecology."

August 19. Much routine mail. I finished a draft of a Yearbook (1971) article on town-and-country planning. I attended a scheduling conference in Hyattsville in the afternoon. It will be very tight to send 60 surveys to GPO this fiscal year. The need to have contract editing, because of personnel ceilings increases costs and makes delays.

August 20. A very busy day with conferences and memos including a long discussion on Gilbert White's Mekong Valley scheme. Robert and his family came in the evening.

August 21. Usual routine and a pleasant, detailed conference in the Forest Service office on cooperation between Soil Survey and USGS on essential base maps.

August 22. Gardening including watering all day.

August 23. I worked on books and read.

August 24. Usual routine. Some work on books and maps including a map of Guam.

August 25. Kelley of Information insisted that we will get the editing

August 1961

done on schedule. I sorted out some books to take home. In the afternoon I met Howard, deputy state conservationist from Iowa, who will replace Sasser in Tennessee in the middle of September. He impressed me well and I wrote a letter to Lewis Nelson strongly urging they get together when he goes there. Sasser will be officed in Tennessee State at Nashville to represent the Department with several Negro colleges.

August 26. Mostly routine with some work on books. A planning memorandum from the Resource Development Division came out. I had worked on this with no success whatever. The memo was almost childish. I was ashamed of it.

August 27. Grant complained about the lateness of our manual for authors of soil surveys. Klingebiel and Barnes had dragged their feet on this but it is done and xeroxed copies will go to the states. Some time wasted in a conference on pollution.

August 28. I gave Hockensmith and Klingebiel recommendations for outstanding ratings. Grant talked with Davey and me about the "overthrust" on soil surveys by the state conservationist in Maine -- Dinsmore. I pointed out that he had done not too much but what he did was done incompetently. Fortunately we have a complete record of his failures and our attempts to correct them, which he ignored. Klingebiel made a complete annotated statement with supporting copies. Two days later I gave one to Davey. Grant is to speak to him about it. He should drop him because he is incompetent for the work.

I also nearly finished taking home books from my office that I do not use regularly.

August 29. Gardening and watering nearly all day. Hot and dry.

August 30. Worked mostly on checking books and their cards.

August 31. Mostly routine. Marlin reported in by telephone from his office in Hyattsville. He is to take staff leadership for a year on revision of the Soil Survey Manual.

I recommended a \$200 award for Pauline.

September 1. I spent much of the morning with Cline. He and others of the staff were meeting in my office when the roof fell in at 2:00 p.m.

Somehow Grant had gotten a list of questions proposed by the Secretary's staff for the Secretary to ask Grant at the next budget hearing. I just barely got the answers typed before closing time.

He also gave me the last draft, by a committee, on a long-range plan for the Service. This he wanted me to read alone and to comment on in writing without consultation with others. That evening I got over about 85 of the 100 pages. It was very bad indeed in many places.

September 2 Pauline and I spent most of the day on this horrendous document. (Although it is not so bad as the new planning guide!) She finished the typing just in time for me to make hand corrections and to get xeroxed copies for this c.v.

September 3. I first visited Group Health for a shot in my shoulder. A little later Grant called. I had headed the manuscript for his use only. He said that he wanted to distribute parts of it to the people rewriting parts of the manuscript and this tied his hands. I explained that I told his secretary that I wanted him to read it first and that after that he could show it to whomever he liked. Much of the manuscript was in bad taste; much was completely untrue; much of it exceeded SCS authority; and so on. For some reason the vital point that our watershed program had an enormous effect on employment in rural areas was omitted.

Clines had dinner chez nous.

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For some reason the first 12 to 16 pages seem not to have been copy edited. Although we have in the Service a captive audience, I still think we ought to try to have documents of this sort as easy and pleasant to read as practicable.

Page ii. This list needs to be gone over carefully by you. In the middle of the page, we are not authorized "to give SCS a major role . . ."; perhaps SCS could "take a major role".

We are not in a position "to step up soil and water conservation research" directly except for that part that is in the Soil Survey.

Further down, I would not "set up in-Service groups." Rather /I should say we may "use appropriate in-Service groups."

Perhaps we may "conduct studies in representative large cities" This may need a bit more qualification in terms of our ^{audience!} authors.

Finally, on this page, I think we need something like the following as a major goal--"stepping up soil ^{studies} ~~conservation~~ completion and publication."

Page 1, second paragraph. ^{many} ~~one~~ of the important changes ^{have} ~~has~~ resulted from application of technology growing out of science.

In the third paragraph, we are talking about farmland and forest land, not the whole of agricultural land. Top soil was not blowing or washing on all of our potentially productive soils. This was

happening in many places and some of our productive soils were being injured. We had especially serious soil erosion during the 1920's and early 1930's for the following reason: During World War I farm prices were extraordinarily high. Land was used for beans, cotton, and other cultivated crops because of these very high prices. Even poor managers on poor soils could make money. I had a personal acquaintance who bought a farm in Michigan, put it all into beans, and paid for the farm in that one year. Then came the farm depression in the early 1920's. Prices fell very low, farmers curtailed the use of lime, fertilizer, and water control practices. This situation continued into the early 1930's. The soil blowing of the early 1930's resulted from several years of high temperatures, high winds, and low rainfall in many parts of the Great Plains. We would have had severe blowing regardless of the practices.

Then too, in the late 1930's, as World War II got underway, both the colleges and the farmers were learning to manage soils better, and we had the first clear statements of the principle² of interactions in developing farming systems adapted to the soils, including new varieties, lime and fertilizer, water control, and pest control.

Then too, farmers again had the stimulation of good prices during World War II and during the Korean War.

Page 2. I doubt the evidence, if there is any, that city people are so against appropriations for basic work in the Department of Agriculture and the cooperating state experiment stations. New York

and California have very large urban populations, yet they have strongly supported their agricultural colleges and experimental work. The best speech I ever heard in the House of Representatives in support of basic agricultural research and services was by former Mayor LaGuardia from the heart of New York City. Labor union leaders and others realize the importance of a dependable supply of high quality farm products at reasonable prices.

I submit that the whole fraternity of state and federal agricultural agencies have failed to capitalize on this potentially important support.

The second paragraph on this page needs enormous revision. We must point out that during the period beginning from World War I until now we have had an enormous amount of migration of farm workers to the cities. Statistically, a large number of these people remained employed in agriculture making machines and chemicals that substituted for direct farm labor. (This situation continued in the south up to and after 1950.) When a farmer buys machines, he is buying city labor. *f*

I certainly would omit any reference to Rachael Carson. She was a good writer of propaganda. So far as I know there is still no firm evidence that people are injured by even high amounts of DDT. Fortunately we are not severely plagued in the United States with malaria and yellow fever. But millions of people are and the lives of many millions have been saved by DDT. Perhaps these people should have died, I do not know; I am not God. *JP* Further many people have been

concerned about erosion and sedimentation. If they had not been concerned, there would have been no SCS. One of the most important statements on this question was published in the 1890's by Shaler.

An important statement was published by the Geological Survey. In the early Bureau of Soils W J McGee wrote an excellent bulletin on soil erosion control. His bulletin and the one on soil blowing by Mr. Free are still classic documents. The Department had an excellent farmers bulletin on the washing of soils and how to prevent it about 1895. It should be recalled that President Theodore Roosevelt was impressed by these gentlemen and others and did a lot to stimulate interest and concern about resources and what we now call the environment. Then too, we had, in the early 1920's, a rather *hard* group on organic farming. These groups are still active in the United States and Britain. I do not hold with their view[^], but they are certainly better than those of Rachael Carson.

Page 3. I am not sure about "very real threats." And I am convinced that I would call ~~several~~ ^{as many} problems with the term "crisis" before I came to the current one on the environment. It is true that we have many problems due especially to the so-called "unpredicted backlash of technology" and due to the enormous cost per acre of urban land.

Page 4. By all means I would omit the first sentence. Perhaps there may be a shift to ~~a~~ greater federal control, but if there is federal control through either the tax power or the police power over

private land, we need first an appropriate amendment to the Constitution of the United States. I might ^{favor} ~~find~~ such an amendment but it will be a long job to get it.

I object strenuously to the expression "the best thing." Whose best thing? ^{being} Certainly not Rachael Carson's.

Further down on the page it is not true that the Service is "practically unknown" outside the agricultural community. I think today more nonfarmers are using soil surveys than farmers. They are used by many federal, state, and local agencies--by highway departments, by health officials, by private planning agencies, by insurance companies, and so on, and so on. Also the Service is not "stopping" soil erosion. The aim of the Service is to control runoff and accelerated erosion. I submit that this is quite well known although we could do better.

It would be a bit hard for me to admit developing communities are slowly discovering"

Page 5. The soil surveys are helping to identify soils. Besides highways, schools, and recreational facilities, they are used a lot for planning forests, airports, and new towns. And again, we are not stopping "soil erosion." We are controlling runoff and accelerated erosion.

In the third point on this page, it is highly important that we include both municipal and industrial water supplies. I think our watershed program has been extraordinarily influential in bringing jobs into rural areas.

The fifth point on this page is also not quite right. It is really SCS experience of soil and water, not just drainage. Further one of our most important contributions now is the prediction of flood hazards caused by covering the soil with pavements, airports, shopping centers, and so on. Again in the first sentence of the last paragraph, many people in addition to farmers and ranchers use our services and materials.

Page 6. I do not agree with Don Parlberg's statement as quoted. An enormous number of other kinds of people are interested in our work. I am sure we would not have had many of our watershed projects if it had not been for this factor. Local towns wanted industry and more jobs. Then too, the statement ignores the fact that about 85 percent of the full-time labor force in agriculture lives in towns and cities. I have lectured to many of these groups and they are quite aware indeed of how their jobs and businesses depend on healthy farming. In fact, many of them are a bit more aware of it than some of the farm organizations. And as I said before, the funding, especially for agricultural programs in both California and New York, ~~are~~ our two most popular ^{and} states, would not support this suggestion.

I wish rather, that Dr. Parlberg would take some leadership in educational speeches and bulletins, pointing out these very important relationships between farming and city jobs.

Page 7. I certainly should omit the term "most educated guesses." Who is most educated?

Page 8. In the last sentence of the second paragraph, I suggest "forest products" as used in most of the statement.

The last sentence on this page will not do. I have already referred to the "unpredicted backlash of technology," but not all technology by any means "exploit resources and degrade the environment." What is our small watershed program but the application of technology? I could give hundreds of these examples. We need to sort out and not generalize.

Page 9. The first paragraph, I do not agree with the term "foreboding specter." We have problems, but no crises. The middle paragraph on this page is difficult. A great deal depends upon trade relations. Last year we had, I think, our largest foreign sales of farm products, including about \$1 billion to Japan. One cannot estimate the demand situation without some regard to foreign trade.

Page 10. Near the end of the second paragraph here we mean wholly farmland. That sentence should read "We already made many shifts in farm land. It is for this reason that one must be very careful in the interpretation of yield data over the years. Much of our corn, wheat, potatoes, and other crops are not grown on the same kind^{of} soils today as they were only a few years ago. This is especially important in the southern states. One could say: "Further production shifts of farmland are necessary to match the soils ~~more~~ more effectively to the crops and livestock produced on them.

Page 12. As you know, I do not like this term "land capability" since it is only a group^{ing} of soils and does not take account of the other characteristics of land. The first sentence of the second paragraph would be clearer by substituting "soil capabilities" for "land capabilities." ~~f~~

Further, there is considerable confusion on this page over the term "arable soils." This term means the soils that are now being used. We do have many "potentially arable soils" that are not being used. The ~~same~~ ^{same} applies to the second paragraph.

Page 13, second paragraph. "... people are continually changing the uses ..." The trends are not "^{tant}consistent" in either velocity or acceleration.

Page 15, second paragraph. It may be the houses that slide down hill. Then too, we avoid the term "suitable." I much prefer the term "limitations." After all, one may build a house most any place if he puts enough extra money in the foundation. Even though this may be impracticable from our point of view, an owner may do so.

Page 16. In the second sentence, the meaning is clearly for rural land use for "farming" purposes, not that used for many other agricultural purposes.

I should add somewhere in this first paragraph a statement something like the following: "Some of the most spectacular erosion is occurring around several of our expanding cities."

Again at the bottom of the page, the first sentence is about farmland only.

Page 17. In the last sentence of the first paragraph, reference is not to "... in some cases" but to "... on some soils ...". The second paragraph bothers me a bit because these phreatophytic plants that consume large quantities of water are important mainly in the arid and semi-arid regions.

The last paragraph should contain some illustrations of the "mining of ground water." This can be interpreted as using water faster than the normal charging of the ground water or it can be interpreted as meaning the use of fossil water for irrigation where there is no recharge at all, as in parts of western Kansas and in many deserts.

Page 19. The first line of the 4th paragraph "soil blowing" is a much better term than "wind erosion." Strictly, wind erosion is due to the blast of the sand against rocks and other objects.

Page 21. I should omit the word "total" in the first sentence. My total environment includes not simply the physical and biological environment, but also my cultural and economic environment.

On pages 21, 22 and 23, I have no particular objection, but I do not feel that we can be ⁱⁿ successful by putting so much of our case on environment alone without considering also other aspects of the environment just mentioned. People on a beautiful soil, isolated from all social amenities and markets are also handicapped.

Page 24. This chart bothers me considerably. Soil surveys are presumably tucked in under "maps, reports, and publications." The chart seems to carry the inference that the results are largely, if not wholly, achieved within the SCS. Actually we would not be able to do a good job of making soil surveys and interpreting them without the research results of the state experiment stations and many other institutes. For example, the bulk of the data in the engineering properties of the soils were received from the state highway departments. This is their contribution to the soil survey, which they use in their work. We in the Service and in the universities do a good deal to promote the use of soil surveys and to help people understand them. At the same time a host of public and private agencies use soil surveys with little or no direct help from the Service once they are published.

Page 25. The point made on page 24 applies to the second paragraph on page 25. This is only one use among hundreds of soil surveys. We have worked very hard to get detailed soil surveys of all significant experimental areas, so that the results of research would be directly related to kinds of soil in the use of interpretations. I think it is important that most companies that loan money on farms use them, and so on and so on.

Page 29. In the paragraph at the bottom of the page, if this refers to dams in the watershed program, the first sentence of that paragraph should have the following addition: "... for municipal, industrial, and farm use."

Page 30. The first sentence near the end should read "... in estimating all the benefits."

Page 32. In the next to the last paragraph it should read "... of drainage improvement of soils used for farming or urban development."

I think we need to look at this page to be sure to avoid ^{an} inference of large scale drainage that would encourage considerable new land development at this time.

Page 33. Here too we have the problem of being sure we are not suggesting a large increase in irrigation of new land.

Page 34, last paragraph. One may say that some plant nutrients can be pollutants. Certainly not all phosphorous and nitrogen are pollutants. These elements are required in all living organisms. I have yet to see any reliable evidence that the normally recommended amounts of phosphorous and nitrogen fertilizers are contributing significantly to pollution of either surface or underground water. There are many sources of nitrogen, including fixation in thunderstorms, the decay of organic wastes, fixation by microorganisms, and so on. Now some part of the excessive nutrients that come into streams may come from surface water passing over feedlots lacking proper diversions.

Page 35. I should omit the first paragraph. This is primarily something for the Forest Service to consider. I think our principal problem here is helping farmers with huge manure accumulation at barns or feedlots.

Near the bottom of the page I object to "total conservation plans." Our plans are not total and never will be. In the next line I do not

see how we can "convince" everybody. Perhaps we can help local people understand that pollution abatement costs should be the responsibility "..."

Page 36. I find the first paragraph very vague as to SCS responsibility. Elsewhere we have talked about the use of soil surveys in helping people find suitable sites for solid waste disposal. In the fourth item on this page ~~2~~ we may "suggest" but we cannot "assure" that legislative authorities include pollution ...

On page 37, just above the side heading "Resource management systems", I suggest another major point, which is very important as follows: --help local agencies predict floods that come about as a result of urban development and the reduction of infiltration water into the soil because of compact housing, highways, parking lots, and the like.

Page 38. In the second list near the bottom of this page, the first item should be qualified to read: Phases of Urban-Suburban Use.

The last sentence on this page--we should write "land capability for field crops and soil limitations." Land capability grouping has no relevance to any aspect of urban development.

Page 39, second sentence. If this term "Class VI land" is to be used, there are many important alternatives to row crops that should also be mentioned. Sodded orchards and woodland are two.

Page 40. I find this paragraph at the top of page 40, running over from page 39, unnecessarily wordy. In the second paragraph, again emphasis should be placed on this important problem of enormously increased flooding as a result of urban building. We have a very expensive example in Alexandria, Virginia.

In the fifth line at the bottom of page 40, I suggest replacing "... considerable confusion ..." with the word "complexities."

Page 41. The first sentence is incorrect. It is only a key. Economic conditions and location in respect to markets are highly important also.

Page 42. In the first sentence the statement applies to field crop production.

In the 8th line, omit "overall." ^{In}the following sentence by all means add "with good economic returns." Farmers are not farming only to meet modern conservation standards. They must get a return for their inputs and labor.

In the next sentence I suggest rewording as follows: "Trained Service people in using broad conservation standards."

In the 6th line from the bottom, we may add after the word diseases, "appropriate solid waste disposal."

Page 45. In the third line replace "ordination" with "grouping." (This does not alter the meaning and few people know what the other word means.)

Page 47. In the second item I should revise as follows: "... within SMSAs and to new towns to determine ..." One of our greatest opportunities is to use our materials and skills to get many more well located, economically viable towns to help stop this terrible overcrowding of the cities. *Watered projects have a vital role.*

In the last sentence on this page, after water disposal, I would add "to avoid the effects of large and small frequent floods on little streams that result from covering the soil with houses, streets, and other structures."

Page 48. The first paragraph belongs under town-and-country planning, briefly mentioned on page 81.

Page 53. The material in the last two paragraphs on this page are too strong. Many other agencies are concerned and I do not think it proper for the SCS to take on this goal.

Page 59. The last full paragraph is not clear to me. I do not know what other natural resource inventory besides soil surveys are contemplated. This confusion is even worse later.

Page 60. The first paragraph will be much more clear if the exploratory sentence is added toward the end of it, just before "in this way ...": Many of the essential data used in soil survey interpretations ^{comes} ~~arises~~ from the results of experience and research within the United States and within many other countries as well.

Page 61, third from last sentence should read: "SMSA areas and new towns should be given high priority for completion."

Page 62. In the third paragraph from the bottom, I see no point in combining here ADP and remote sensing. By far the greatest and most important use of ADP in the Soil Survey is to get our classification, morphological data, our soil laboratory data, ^{engineering laboratory data,} the interpretations, and the maps on computer tape so that we may retrieve the data quickly for specific purposes. This work will require the use of computers, but probably ~~is~~ ^{will be} SCS ~~no~~ ^{no} equipment except in the Cartographic Division for the maps.

Page 63. This last paragraph is not clear to me. The only regular natural resource surveys besides the soil survey would perhaps be the river basin surveys, Assuming that the forest site and range site will be geared to the soil classification system.

Page 64. Much of this simply conveys no thought to me. It is so very general.

Page 67. The second paragraph is so vague that I do not know what is included. It suggests that something besides soil information and its interpretation is included, but I am not sure. Others might have the same trouble.

Page 74. The first line of the second paragraph from the bottom needs revision to something like the following: "SCS, with no charter to carry out research except in the Soil Survey program, looks to others to provide research ... "

When the Soil Survey was transferred to the SCS, it carried with it its authorization for essential research,¹ soil morphology, soil genesis, soil classification, and so on.

Pages 74 to 76. This whole discussion of automatic data processing is vague and I fail to see the need for it. ADP is a tool and in no sense an objective in itself. If it is included, it should be much more specific and should not carry any implication that SCS will expand its own hardware.

Page 77. I suggest some revision of paragraph 2 in the middle of the page to read as follows: "2. Interactions. SCS will extend resource planning assistance to achieve the maximum benefits from the interactions among the several factors in relation to the local kinds of soil for the most favorable, orderly development of the community."

Page 78. Under the center heading, I do not understand what is meant by the first sentence of the second paragraph. I should hope that this would not be interpreted as setting up 10 or 15 special staffs within the Service.

Page 80. I do not get a clear idea from the second paragraph under "goals." Certainly this does not include all of the planning that must go on in a state. It is assumed that we are talking about soil and water mainly. This could be torn from context and be used to criticize us.

On this same page I get the same inference. I should say that the last two points on that page should be : "establish new needed planning surveys at the state level ..." and in the last paragraph "establish a multiple disciplinary planning survey at each central area as needed to assist ..."

Here again I think we may be accused of going quite beyond our authorized areas and certainly beyond our competence.

Page 81. Personally I think that town-and-country planning offers one of our greatest challenges. I think something more needs to be said to point out the great need of new economic opportunities in the many rural states and parts of other states that are losing population because there are no jobs. This principle is vital to any reasonable success in our RC&D projects. Of course, the Service cannot do that all by itself, but it can assist greatly in suggesting favorable locations for such new towns and their operational planning with detailed soil surveys.

If we go ahead with strictly rural programs, I am afraid we shall not bring about employment but more relief cases.

In this connection emphasis should be given to the very important role of our small watershed program. Many small towns and their trade areas have been enormously improved already as a result of the new industries from the industrial water supplies.

Many areas have excellent potentials in farming that cannot be realized because of the lack of processing industries and other services. One cannot have a viable commercial farm without a town nearby that has good transport, including air transport. In many places such towns also use other resources of forestry and mining. With adequate infrastructure for these, other industries can be added, especially those not requiring heavy transport of raw materials or of finished products. Such towns with their trade areas would take care of much of the unemployment and underemployment and gradually attract people wanting a better environment from the deeply crowded cities.

Page 90. I think that part of this and especially in the three numbered paragraphs at the bottom should emphasize more clearly that the Service does not undertake by any means ~~at~~ the wholly educational job now handled in the American Educational System. Our job is to help supply statements, ^{basic} ~~that~~ principles and illustrations, to existing schools and universities. The more basic these principles are, the more easily they can and will be worked into standard courses.

Page 93. Item 3 at the bottom of the page needs to be qualified. After ADP add the following: "That makes specific contributions to the ^{storage} ~~exemplary~~, analysis, and retrieval of useful data.

Here again I fear that we may run into trouble.

Page 95. The second paragraph suggests that the greatest opportunity in new countries is on land already spoiled. This is far from the truth. Our analysis show clearly that the world could a bit more than double the amount of arable soil. Much of this excellent and unused soil is far from any existing transport. Its development would require careful soil selection in relation to other resource potentials to share in the cost of the necessary transport and other infrastructure. Also a great deal of good soil is now being farmed crudely, without proper fertilization and so on, on which yields could be increased several fold with adequate inputs, skills, and marketing facilities.

Page 97. It should be made clear somewhere under the middle sidehead that a great deal of help to these countries is now going on with normal exchange of correspondence and publications. Thank heaven, not every scientist in the United States or in other countries has to depend wholly on special government projects to get and to receive information. We in the Soil Survey alone carry on an enormous correspondence with our colleagues all over the world. And it is by no means a one way street. I think we help them quite a bit, but I know that they give us many excellent ideas as well.

Page 100. I do not think it is necessary to use the word "level."
In the very first sidehead, cannot we say simply in the state? And in
the second one I should say: federal functions.

In item a, near the bottom, we should need to: "work toward the
development of several explicit statements of national land policy."
This can ^{not} all be ^{accounted} ~~counted~~ up into one grand statement. We shall need
to make statements about various aspects of the policy problem.

Sept 1970

September 4. A very busy day, especially on memos to Cline.

In the afternoon the son of my friend Bloomfield of Rothamsted visited me. He seemed like a highly intelligent young man.

September 5. Watered the garden all day. Still hot and dry although the silly reporter quoted it "pleasant." In the evening we attended a small party chez Derr. It was very hot. Her comments were not good advertisements for apartment living.

September 6 was a quiet day. I worked on the c.v. and books and read.

Monday, September 7, was a holiday. I cut a little off Mommy's workbench and installed a new 4-drawer file case.

September 8 we held a very long staff conference with all senior people present and went over some of Dr. Cline's plans for an outline of a new edition of the Soil Survey Manual.

September 9. Heavy routine mail and acting administrator. I briefed the new state soil conservationist for Alaska -- W.E. Long -- ^{on} ~~for~~ our plans for completing a reconnaissance survey of the state.

September 10. Again I was acting administrator. There was heavy correspondence in the Soil Survey but fortunately it was light in the front office.

September 11 was an ordinary routine day.

September 12, Saturday, I worked in the garden until 3:30 p.m. *Then Johnson came here to talk about an accident.*

September 13. I read and worked on books.

September 14 was a busy routine day, mainly with budget planning.

September 15. A busy routine day and from 11:00 to 1:30 I was with a group of agriculturists from Yugoslavia.

September 16. This too was a busy day and I finished the first draft of a long essay on the principles of planning for those using soil surveys in city or town-and-country planning.

I had tried to work with the so-called Resource Planning Division in order to help them get a few of the basic principles in their revised handbook. This turned out to be impossible, apparently because they could not understand them. At least we will have something for our soil scientists.

Septmeber 19. Heavy routine correspondence. I worked on paragraphs for the report of the Secretary of Agriculture and attended an Alpha Zeta seminar put on by USDA economists who had been to the Soviet Union for an international meeting. Certainly they were very poor observers and the show was a waste of time.

September 18. A large volume of routine correspondence.

September 19. In the garden mostly watering the lawn and other plants.

September 20. I read much of this day. In the evening the Bathursts and Benders had dinner chez nous with talk about books.

September 21. There was heavy correspondence and I dictated comments on some library books I had just read. Later I went over an extremely poor statement by FAO on their anticipated program. I talked on the phone with Dr. Cottam, their North American representative, about this. At his suggestion I reviewed it in detail.

September 22. I spent most of the day dictating a criticism of the very bad FAO report. (Copy attached.)

September 23 I attended a brief committee meeting of American delegates to an FAO rice conference. I sent the FAO criticism to Cottam with copies to Phillips. It was obvious to me that this had been developed by office people in Rome who lacked any successful field experience.

September 24. D.J. Greenland, formerly of Britain, Nigeria, and Australia called for a chat. He was on his way to Reading to take the place as head of the Soil Science Department from which Walter Russell was retiring. He and Nye had written an excellent book on shifting cultivation

Subject: World plan of action for the application of science and technology to development: Chapter 2, Food and Agriculture, dated 16 March 1970.

We have tried to examine this document in light of known successful experience in farm and agricultural development in both the developed and the developing countries. We found many errors and omissions that make the manuscript vague and unbalanced.

Throughout the manuscript a great deal of emphasis is given to research with special regard to research centers and experimental stations. This can be good, but the overemphasis suggests that we lack any knowledge of how to go ahead now with developments of importance to cultivators. This is not so. The great importance of the knowledge of soils is grossly understated in most places. Terms like "biosphere," "ecological zones," and "biometerological surveys" seem to have been used almost with design to omit reference to soils and their regimes of moisture and temperature. Yet it is with soils that we must begin. In nearly all parts of the world, if the kinds of soil are learned and the local climate is understood, including climatic hazards, a vast amount of knowledge from research and experience can be made available for early application, with adjustments to accord with the current skills of the cultivators.

We support additional research stations provided they can be staffed with skilled people willing to work. We also have need for adaptive research. Someone on these adaptive research teams must have a bit of knowledge of and flair for cultural anthropology. In development, as in education, one must start where the people are. If they are exposed to too many entirely new things, they are likely to become confused. Yet improvement of only one or two practices seldom pays.

Perhaps the easiest way is to go through the manuscript and give a few examples of what we believe to be errors.

Page ii, paragraph 10. It is absurd to attempt to classify, let alone computerize, data by "ecological zones." For example, only about 10,000 years ago much of the northern part of Africa and the Middle East was moist. In fact, there are large deposits of fossil water under the Sahara Desert. This water was accumulated during the Pleistocene. As the ice receded, the deserts again developed in the belt that includes the Sahara, Rajasthan, the southwestern part of the United States, and northern Mexico. As these areas dried, the vegetation changed, mostly from woodland or forest to savanna. Nearly all the savanna in Africa is anthropic--man made. What we find in any one place is a matter of unobserved and unknown accidents of cultivation, cutting, and fire. Some of the promising soils can have either

very bad or very good savanna. The only dependable organization of our data about the characteristics of a place and its potential responses to management is by naming the kind of soils, including their regimes of moisture and temperature, and the current climate. Many of the soils of the world developed at least partly under a quite different climate than the current one.

Several somewhat different systems of soil classification are used in the world. Yet increasingly, soil scientists are able to equate reasonably well one standard system of taxonomy with another.

Page iii, paragraph 13. We should submit that institution building in both the private and public sector is vital from the start. This is the most difficult part of the development process. Every country has some balance between the private sector and the public sector, depending on its traditions. In our judgment, it would be a serious error to put all the emphasis on the public sector.

Page iii, paragraph 17. The word "land" is used instead of the proper term "soil." Land is real estate. It is partly defined by soil but also by the size of the holding, its relation to other kinds of land, its location in relation to markets, water supply, and so on. Throughout much of the manuscript the term "land" is used in many places when the proper term is "soil."

Page iv, paragraph 18. This paragraph is quite misleading. Certainly in early development where there is plenty of potential farmland, flood control could have a low priority. It is not made clear that good varieties, water control, fertilizer use, and marketing must come together at the same time.

On this same page in paragraph 19, irrigation is much overemphasized considering the potentials in many countries. Large irrigation schemes are very expensive and the yield potential must be very high if they are to be practicable.

Throughout the statement almost nothing is said about runoff control. In a great deal of India, for example, this is the largest prospect for improved water supplies for crops. After all, most crops now get their water from the water that falls as rain. Methods have been worked out for using earth terraces at a slight angle to the contour that slow down the water so that it may soak into the soil, not only for the current crop but also for a crop in the dry season. It requires an excellent staff to design these terraces in relation to the local kind of soil and the hydrology of the area. If this is not done, the terraces are likely to break and even initiate serious gullying. Yet it is being done well now. And machines are not required. The important thing is the design of the terrace. Earth

can be moved by hand labor or with oxen. In many areas where terraces have great promise, large numbers of people need employment even at low wages. With hand labor and bullocks the funds can be spent in the community rather than for machines made elsewhere.

For runoff control (and for economic irrigation) in many farm villages, the consolidation of fragmented holdings is essential. A small total holding of one family may be scattered in many tiny tracts due to splitting for inheritance and marriage dowries over the years. On such patterns contour terraces cannot be made well. Yet the consolidation should not be made into one holding if the village has a pattern of highly contrasting kinds of soil. These may be grouped in two or three classes and each family can have two or three holdings with proper terraces, used as the upper and lower field boundaries. The work requires a good soil survey and the people in the village must be convinced of the competence and fairness of those laying out the scheme. This work has been done well in India, with high returns to the cultivators, but not nearly enough has been done.

We have no objection at all to irrigation where there are good and lasting supplies of water, but at best this cannot meet the great need for water control for cropping.

On this same page (iv) in paragraph 21, again the high cost for research and equipment is overstated. Many of the basic principles involved are already well known. To initiate a new research institute costs a lot of money and results are not forthcoming for a considerable time. Undoubtedly several new institutes need to be established, but this paragraph greatly overstates the need for research to have immediate improvements by cultivators.

Page iv, paragraph 22. This paragraph is misleading because many of the basic principles that have been discovered have a wide application if the soils where the research has been done are like those where the results are needed. In many areas there is a need for adaptive research to make a start with current skills of the cultivators. That is, practice combinations depend on the kind of soil and on the skills of the cultivators.

Page iv, paragraph 23. There are so many ideas in this paragraph that really nothing much is said. The achieving of social justice, to quote the late Prime Minister Nehru, "by just means" is an important problem in many countries. This brings up the old question of land reform. The course to take varies widely with the different kinds of soil and especially with the existing social and political patterns within the community.

Page v, paragraph 24, is again quite misleading. On some of our soils with very high potential, rather major improvements need to be made through forest clearing, runoff control, and the application of fertilizers. Dramatic improvements have been made in methods of land clearing. The new methods are very much cheaper and very much better for the soil than the old ones. These methods could have enormous significance in parts of Africa, Latin America, and southeast Asia, for example. Then too, it should be emphasized that the infrastructure must be considered from the first moment.

This leads us to mention another great confusion of terms. In places the word "agriculture" is used simply for "farming" whereas there are many essential processing, marketing, and manufacturing phases of agriculture that are vital to make farming successful. Where reference is made to farming alone, that word should be used. The word "agriculture" covers the whole system. It is very important to emphasize that as agriculture has improved, less labor per unit of production is needed on the farms. In several of the advanced countries, we should presume that only about 15 to 25 percent of the fully employed agricultural workers live and work on farms. This fact is a major problem of planning and one needs to consider systems that can make full use of farm labor--the so-called labor-intensive systems--but must also make long-time plans so that redundant farm labor can have opportunities for employment in the industrial and service sectors. The failure to distinguish between "farming" and "agriculture" confuses many paragraphs.

Page v, paragraph 25. Here and elsewhere enormous overemphasis is given to the new varieties of cereal grains. We grant that these are important, but the people in many areas do not eat much grain. The inference is given here and in other paragraphs that one starts with "new varieties" and then thinks about the vague suggestion of "complementary inputs." Every hectare of soil in the world that has a good yield for the labor and purchased inputs has a balanced supply of nutrients; water and oxygen for roots as they require them; plants with the genetic potential to respond to the best that it is economical to do toward producing the ideal soil; and protection for the crops and associated livestock. And the combination must be one adapted to bring out the potential of a particular kind of soil. What works well on one kind of soil may be ruinous on another. It is simply absurd to push one of these essentials over the others or to push the combination without the essential infrastructure for inputs, storage, and marketing.

Then too, many plants of great importance in the developing countries are not produced from seed in the ordinary sense. (We have often speculated how the first cultivator learned to grow olive trees by cuttings from the rare good ones--a knowledge that revolutionized the economy and trade of the Mediterranean area.)

Page v, paragraph 26. In many developing countries cereals are not used in anything like 50 percent of the area. Later in the manuscript much is said about other crops, such as bananas and many of the tuberous crops and root crops. Furthermore, much is said later, but apparently by a different writer, about the importance of the industrial crops to earn foreign exchange, and also about the great potentials of tropical forestry.

Paragraph 27. It is irresponsible to say that the great bulk of fertilizers and pesticides should go on soils planted to cereals. In some places they should and in other places soils used for other plants should have a higher priority.

Paragraph 28. There are many important crops that are not "geared mainly to circumstances," such as bananas, African oil palm, groundnuts, and others.

Paragraph 29. In the first sentence we question the expression "serious difficulties." It is not difficult to grow these crops on soils adapted for them with a proper infrastructure. This paragraph ends on page vi with undue emphasis on cereal grains for the whole world.

Page vii, paragraphs 39 and 41. For some reason, the need of more nearly reliable weather forecasts in several potential important areas for fishing was omitted. We understand that this applies to much of the sea north and west of Australia, for example, where it is dangerous to go far out in little boats.

Page ix. We, too, think that there are great opportunities for tropical forestry. A basic difficulty is the great multiplicity of species on one hectare. Many of these species are excellent but the trade does not know of them. INEAC in the Congo did some excellent work along this line, which can still be helpful. They showed what could be done with the several species. This work needs to be continued and similar work done for other tropical forests.

On this same page, in paragraph 49, it must be emphasized that a lot more work needs to be done before the optimistic statement about the use of satellites becomes a near reality. Certainly methods are not available now.

The purpose of photographs and other sensing from airplanes or satellites is to spread the hard ground truth we have. Ground study of sample areas is essential for estimating either soil boundaries or vegetation.

On page ix, paragraph 55 is altogether too negative. With reasonably good soil surveys these so-called dangers to the "ecosystem," which

is by definition a natural kind of soil, need not happen. One of the big dangers is the placement of skid trails and roads without regard to the stability of the soils and the danger of gullying and slides. These dangers can be avoided. Some forests should be nearly clear-cut and managed to get the better species reestablished. Here too, close attention must be given to an adequate infrastructure.

Page x, paragraph 59. Proper storage of all farm crops is extremely important. We realize that adequate knowledge is not available everywhere. We have good prospects of storage of grains and other crops with refrigeration from electric power where there are great unused resources, as in the Congo River Basin. We should hope that the excellent skills of the Japanese in grain storage could be much more widely used in other countries.

Page xi, paragraph 65. A good many of our serious miscalculations on food are due to people taking inadequate statistics seriously. Even on cereals our data are very poor, but people use these poor data and then compound the problem enormously by equating cereals with food, even in places where they make only a small part of the diet.

We have long advocated, without success, detailed studies of representative villages by people well trained in anthropology, economics, and home economics, to account from whence all the food comes and what foods the people actually use, most of which goes through no market where records are kept. For example, nutritionists complain about cassava without realizing that many people eat the tops as greens. These are relatively high in leaf protein.

Page 3, Chapter 2, paragraph 10. From our knowledge of the present outlook of space satellites, it will be sometime before we can accurately computerize farm operations. Nor can it be done without ground study of sample areas.

Page 3, paragraph 12(a). It has been shown clearly that we need to start out in research and development with accurate soil surveys. This needs to precede building large research institutes and the establishment of permanent experimental stations. Where this has not been done, much of the research has been with unrepresentative kinds of soil and had little application. The same principle applies in planning the preliminary infrastructure essential for farming. There are many people skilled in these kinds of soil surveys.

Page 5. If this document approximately represents the kind of judgment that FAO would use in developing programs, certainly the funds proposed on this page are extraordinarily exaggerated.

Page 7. All of us are anxious to get more education in the developing countries. We feel that by far the highest percentage of this should be arranged within the country itself. For some time emphasis has been placed on teaching the cultivators to read. This is good so they can read bulletins, directions, and so on. Then the emphasis has jumped to Ph.D. training. Some of this we think to be unnecessary. If a bright young man or woman in an undeveloped country is selected for Ph.D. training at a North American or European university, they are so removed from their normal environment that a high percentage can no longer communicate with their own people when they return. It is much better to do all the training within the country. Then afterward, when the person has made a good record, he might go to other countries for specialized training, not necessarily in universities, but with certain government agencies, machinery companies, cooperatives, fertilizer companies, and the like.

Then too, we cannot expect good farming without the essential services for inputs, processing, marketing, and all the rest. This points up the urgent need for many trained mechanics, electricians, truck drivers, and all the rest, which most people in the developed countries simply take for granted. We have all seen experimental stations furnished expensive and sophisticated equipment. Yet when something goes wrong with that equipment, there may be no one within 200 miles who can fix it. It seems to us that our educational programs should have in mind the people who must operate the nonfarm sectors of agriculture, much of which will be in the private sector, as well as in farming and in research.

Page 13. The first three paragraphs on this page have farming and agriculture so confused that I am sure most readers will be misled. Besides the specific industries within the field of agriculture, there are other industries partly related, such as oil, steel, and the like.

Page 13, paragraph 49 speaks of the billion extra people, of whom 400,000,000 might be in agriculture. I do not know what this means. How many of them would be on farms and how many in the other sectors of agriculture?

Page 14(a). The errors, omissions, and so on that we have mentioned are compounded in this table. In the first line we are presumably talking about the development of soil and water resources. The most difficult and urgent need is relegated to the very last item-- institutional building.

Page 15, paragraph (iv). The losses between harvest of food crops and the kitchens of people are simply enormous. A few years ago we were asked to estimate it for India. We hope the situation has improved since then, but in 1960 we estimated 35 percent loss in normal years and 45 percent loss in good years.

Page 15, paragraph (v)(a). Does this mean additional employment in farming and in industrial sectors of agriculture? Again this emphasizes the need for many more electricians, mechanics, and all the rest. Furthermore, it should be clear that a laborer working in a fertilizer plant, a storage facility, a processing plant, or driving a truck, may get all his income out of agriculture.

Page 16, paragraph 66. Climate is important, but certainly the soils come first in a determination of the potential of an area for farming. This term, biometeorological, seems to us to just muddy the water.

Page 17(i). This concept of "international biometeorological trials" strikes us as downright silly. What we need are good soil surveys, including the temperature and moisture regimes in the soils, and good climatic records. Our interest is in potential ecology.

Page 18, subtitle II.A.2. Here again we are developing soil and water resources.

Paragraph 78(ii). This suggests an enormous overemphasis on irrigation. It omits responses to fertilizer and runoff control. Many lands also require drainage along with salinity control. The main point is proper selection of systems for local kinds of soil.

Paragraphs 78(i) and 79, page 18. The big item here is reliable selection of kinds of soil for development. Many of the most notorious failures--and there are many--in development are from improper soil selection. We wonder if people in FAO ever studied the infamous groundnut scheme of East Africa? One would have thought this very expensive lesson could have been understood.

Page 19, paragraphs 81, 82, and 83. In all of these the basic principle is good soil surveys in order to extend the knowledge that is already available, gained through research and the experience of cultivators. If this is done, one does not need an experiment station on every scheme.

In paragraph 82 the term "productive capacity" is meaningless without a statement of response to management and for what purpose.

Paragraph 84. We do not think that irrigation will play the central role in very many countries. The opportunities from runoff control can be had much cheaper. We repeat again that we are not against irrigation where the funds are available and the supplies of water can be assured. But we are mindful of the vast areas in the world where the shape of the soil does not lend itself to irrigation and where abundant water from rain can be controlled with terraces.

Page 21, paragraph 102. The statement here is absurd. It is true that the development of some of the most excellent tropical soils requires work, but because of the climatic conditions in the humid Tropics, yields can be higher than elsewhere. "Laterite" is not a soil. It is a conspicuous feature in a few kinds of soil. These kinds are so dramatic that the abundance of soils with laterite is enormously exaggerated. Furthermore, as used by many people under mixed cultures without plowing, reasonable production is had on some soils that do have laterite beneath, as in Kerala State in India.

Page 22. We repeat again that a great deal can be done now without an enormous effort in new basic research. The chief needs are water control, fertilizers, varieties with the genetic ability to respond, and crop protection fitted to the local kind of soil. All must be done at the same time. A concept of improved farming should by no means be limited to cereals or even to food crops alone.

Page 23, paragraph 112. The first sentence is not clear. What the author apparently intended was the basic or original genetic resources.

Page 25, paragraph 114. The last sentence urgently needs a qualification as follows: ".... in some parts of many countries." Overemphasis on new miracle varieties of cereals can lead to a great deal of trouble.

It also needs to be pointed out that where such new varieties are introduced, it is urgently necessary that the government have a few first-class plant pathologists and entomologists on hand to detect any new disease or insect. Where a new disease or insect comes into an area growing mainly one or two susceptible varieties, a catastrophe can occur within just one or two years. These experts must be very good because not all the potential diseases and insects are "in the text books."

Paragraph 117. Cultivators should not be encouraged to grow these varieties without equal emphasis on water, fertilizers, and protection.

Page 26. This page needs considerable reworking. In the Congo and elsewhere considerable research has been done on cassava and plantains. It should be pointed out that many primitive people prefer cassava because for home use there is no storage problem. The crop can be established and harvested at the end of one year, two years, or even three years. And as we pointed out, many of them use the tops for greens that are relatively high in leaf protein.

Page 28. Here again it must be recognized that many fruits and other crops are not grown from seed.

Page 29, paragraph 138. Multiple cropping has been known for quite a long time. We say this with full awareness of the excellent research that Dr. Richard Bradfield has been doing recently at the International Rice Institute in the Philippines.

Paragraph 140. "Narrow ecological range" is meaningless in this connection. Some of these crops do have specific soil and climatic conditions that need to be specified, but we have to think of the soils in terms of how they may be modified with fertilizers, composts, and water control. Here too, of course, the immediate processing of several of the crops is extremely important. African oil palm, for example, is a most promising crop, but the oil must be kept clean and not allowed to ferment.

Page 30, paragraph 146. The first sentence is not clear. Is it "three to four times" per hectare or kilo?

Page 31, paragraph 149. Some highly qualified person needs to study this paragraph. From our own information we should think that coconuts would have trouble competing with American soybeans, perhaps even more with Soviet sunflowers, and likely still more with the improved African oil palm.

Page 34. In the first sentence we are again talking about soil and water resources, not land.

Paragraph 164. Much of our most promising unused soil in the Tropics with great potential requires clearing of the forest. As we pointed out earlier, far better and far cheaper methods have become available recently. Along with the clearing, attention needs to be given to water control through the use of terraces and channels for drainage.

Page 36. Here again the inference is strong in the first few paragraphs that one gets the new miracle varieties and then thinks about fertilizers. The two must come together in a proper combination that fits the local kind of soil. Otherwise failure is inevitable.

Page 53, paragraph 265. The danger of harvesting forests in the Tropics is enormously overemphasized. By reasonable soil selection there needs to be no harm to the environment.

Page 56, paragraph 275. The first sentence should be qualified to read as follows: "Modernization of farming systems requires at the start some development toward the necessary infrastructure."

Page 61, paragraph 308. In the first sentence reference is made to the raw materials from farms. Using the word "agriculture" is confusing unless processed products are intended rather than farm products.

Page 63. Some first-class authorities should examine this question of rubber. Sometime ago we recall that a survey was made of North American and European users of rubber in which about a third wanted synthetic rubber, about a third wanted natural rubber, and about a third were indifferent except for the price. If this is still true, there may be a great prospect of rubber trees of the kind recently developed in Malaysia.

Page 66, paragraph 337. The expression "agricultural personnel" is extremely vague. People working in agriculture include people with a wide variety of skills. The paragraph is meaningless as it stands.

Many of the misstatements and failures of specificity have already been suggested and could be further illustrated on pages 64-70.

24th 1975

I got the impression that he had deteriorated greatly due to the influence of the present Australian staff -- which cannot do much in basic research and has only contempt for applied research. (Because of this attitude there is no soil survey work in Australia now.)

Later I had another caller -- a Mr. Jones from Britain, who was assistant or associate director of a sulphur corporation that manufactures fertilizers. He was quite pleasant and we had a long chat during which I urged him to quit using the word "consumption" for the "investments" of farmers in fertilizers. At first he was shocked but suddenly he could see the advantages. I also explained in depth the nature of agriculture and the terrible confusion resulting from the use of the word "agriculture" for the small sector that is "farming". (Added later: A few weeks later I had a delightful letter explaining that he would never use these words incorrectly again!)

Near the end of the day we were informed that Nixon had ordered a much lower budget and personnel ceiling for fiscal 1972. Presumably he will build some more unnecessary White Houses!

September 25 was a busy routine day.

September 26 we left home at 7:55 a.m. for Charlottesville and arrived there at 10:15. We mostly talked and looked around in the garden.

September 27. Again we had mostly talk and a very short trip to the University of Virginia campus. It rained. After dinner we left about 2:55 and were home about 5:20 p.m. I hurriedly changed and picked up a large mass of twigs that fell during the weekend.

September 28. A considerable volume of mail was dealt with but it was mostly routine. There were several conferences including one with Campbell about the long-range SCS plan.

September 29 I attended a conference on slights and indignities to Negro employees in the Service. I was shocked at some of the complaints and Carl Lindstrom assured me later that these were actual instances. I certainly hope that I do not catch any of our Soil Survey people doing these sorts of things or they would need another job. Then we had an utterly absurd conference with the Resource Planning group. They simply read(sic) this silly thing -- their handbook on planning -- to us.

That day I received a most excellent statement about town-and-country planning from REA. Unhappily they called it "Community" planning.

September 30. I sent out copies of the REA booklet to all of our Soil Survey people. Then I went over Ken Grant's speech for the State Conservationists meeting and persuaded him to make a few important changes. Just before he left about noon I got his permission to send out under his name copies of the REA bulletin to all state offices. It is far better than anything the Service has ever produced. (Copies of transmittals attached.)

October 1. A busy day as Acting Administrator.

October 2. Another busy day including a conference in Dr. Tom Cowden's office on a simply horrible bill being prepared in, of all places, the Civil Service Commission that would remove all people in Grades above GS-15, and some of the GS-15's from career Civil Service status and place them on 1-year contracts at the end of 5 years. That is, they would have 5-year contracts except new ones that would have 1-year contracts. At the end of 5 years all would be under 1-year contracts. This would mean the end of having scholars in both the natural and social sciences in the government except for older people from the universities who might take such contracts while on leave or after retirement. Of course Eisenhower started the raid

12172

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Washington, D. C. 20250

September 30, 1970

Advisory INF- 81

From: Kenneth E. Grant, Administrator

Re: "Developing community resources"

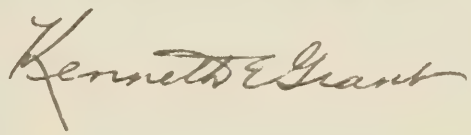
The Rural Electrification Administration has furnished us a few copies of the attached pamphlet. It clearly illustrates the concept of town-and-country planning. Please look especially at pages 14-17.

This concept is, in our view, vital to rural development and more rewarding farming, and the only alternative to over-large, crowded cities.

With this kind of rural town and trade-area planning, the industrial and service sectors of agriculture can be more closely and effectively related to farming. Both town-and-country people can have a better biological, physical, cultural, and economic environment.

With the appropriate infrastructure for agriculture, many other industries can be added to such towns and even attract young people from the old cities who are looking for rewarding economic opportunities and pleasant places to bring up their families.

Attachment



STC (w/1 attachment)
DIR (w/1 attachment)

on Civil Service which had already badly damaged the social sciences and hurt the natural sciences. This proposed bill will finish them in the government.

I arranged a very interesting general staff conference on a few key issues.

October 3. Again the usual clean up and watering of the garden.

October 4. Mommy took me to the Arboretum where I gave a talk to the Rhododendrun Society on soils. She was urged to put her name in the bowl for the door prize and she won a rare and new rhododendrun -- recently introduced from Germany, Scarlet Wonder.

October 5. I had a conference with Dr. Lovveren about our difficulties of cooperation on soil surveys with the Virginia Polytech Institute. I explained the fact that these people were insisting on a degree of detail that was not needed and that could not be published at anything like reasonable cost. Fortunately he understood the situation and said he would arrange for Dr. C.T. Wilson, Director of Research at Virginia to call on me. Later Dr. Wilson came and we had an excellent conference. I explained the situation to him and he agreed to look into it and call on our State conservationist.

That evening beginning at 6:00 p.m. I had a 3-hour lecture and seminar for a special class at the USDA Graduate School on the environment. It was a very good group.

October 6. Dr. Byerly sent over to me a complete screwball -- an old man who called himself Dr. Ghernich -- who wanted a job.

I spent the rest of the morning and had lunch with three people here from the Soviet Union -- E.I. Gaydamaka, N.K. Shikula, and N.D. Tokareva (interpreter). The two men were originally Ukrainians. They were in the Ministry of Agriculture and were concerned with the control of runoff and erosion and with the

protection of soils against blowing. Our original plan was worked out on the basis of a little knowledge of what they wanted and we reworked it considerably.

October 7 I had a chat with Dr. Victor F. Lischenko, a young agricultural officer in the Soviet Embassy with whom I was well impressed. He was living in Ukrania and was about 5 years old when the Germans invaded. He said that they shot at the children like hunters shoot at birds. Twice he was wounded.

In the evening Mommy and I attended a "do" chez Johnson with the Soviet guests and several people from the Soil Survey and their wives. Madame Tokareva impressed me as an especially intelligent woman with a considerable knowledge of American and English literature.

October 8 I spent most of the day in the garden on leave.

October 9 was a busy day with much correspondence to deal with and to have everything ready for a longish trip to New Hampshire and Quebec. It had been planned that I would attend the first three days of the state conservationists annual meeting in Portsmouth, New Hampshire and then go on to the 25th anniversary meeting of the original conference of FAO where I served as Secretary of the Agricultural Committee in 1945.

October 10 I spent about 2 or 3 hours in the garden and made all preparations for leaving early the next day.

October 11 (Sunday) with Mommy driving we left home at 5:10 a.m. and arrived at the hotel in Portsmouth, New Hampshire at 2:20 p.m. This was good time for 492 miles. We were told that we were given the best room in the hotel -- Wentworth-by-the-sea.

After cleaning up we registered and visited with many people.

October 12. We had breakfast with Dean Price of Harvard and others. The formal program began with an unnecessary speech of welcome by the new state conservationist of New Hampshire -- Burbank. Then we had a rather

blase speech by Wilder, a good man, and now President of the National Association of Soil Conservation District Supervisors.

Dean Price made the main speech beginning with Thomas Jefferson and carrying through to the present.

At lunchtime Gordon Zimmerman, who works for the NSCD told me voluntarily that he wrote the worst speech Hugh Bennett ever gave, which appeared in the first issue of Science for 1947!

After lunch Tom Cowden spoke on professionalism.

Ken Grant's message went over well except that it was terribly long.

Cecil Wadleigh's talk on "Soils and the environment" was accompanied by beautiful slides. His aim was to show the need for research. Still his talk was very hard to follow.

Before dinner we had cocktails in Johnson and Hockensmith's cabin with others.

October 13. It rained. I spent most of the day in one of the 4 sessions of state conservationists on the long-range plan. Hopefully I got some of the nonsense out of it.

October 14 I chaired a session with four prima donnas and actually held them to their time! Kelley began with an excellent talk on the use of slides and improved formats for publications; Berg spoke on rural planning rather loosely; and Davey likewise on the environment; Hollis Williams gave a good summary of the watershed program. I spent most of the rest of the day in group discussions with state conservationists. Several of them claim that local extension services were dragging their feet on rural development. It was claimed that both Missouri and Virginia extension people were opposed to SCS working in "broad resource planning." (Of course in some places SCS was ill equiped to do this because there was no leadership whatever in the field of economics.)

After lunch we had some rather unuseful discussion of anti-pollution measures.

It was brought out clearly too that state offices are greatly expanding their staff and cutting the field force. Then too, several states have more people than they can finance and others are looking for people. Fortunately, our group had the guts to recommend that the Washington office must take a much firmer stand on requiring people to move or else to resign.

October 15 we left the hotel about 8:50 and drove to Quebec City. It rained all the way to Quebec Province. We crossed the river on a ferry and reached the Chateau Frontenac about 5:00 p.m.

As soon as we came in we discovered that the FAO anniversary conference had been cancelled while we were enroute. The group of terrorists who call themselves the Front for the Liberation of Quebec (FLQ) had kidnapped the Minister of Labor of Quebec Province in Montreal and they were holding the British Trade Commissioner for ransom. To deal with this crisis the Prime Minister of Canada that night declared an emergency and put into effect the War Measures Act.

We registered and got what turned out to be a very nice and very expensive room. Several other Americans and Canadians were caught as we were and the decision was taken by the Canadians to have a long "brunch" for all of those so caught at 10:00 a.m. the next day.

We chatted with Dr. and Mrs. Ignatieff who had a dinner engagement.

At dinner time we ran into Dr. and Mrs. Ralph Phillips and had dinner together. After dinner we had a long chat with them in our room until about 9:50. We undressed and prepared for bed -then in came the Ignatieffs for a visit until 11:30.

At both of these conversations there was much speculation about what was going on. Obviously the US does not support FAO very strongly.

Phillips told me that Secretary Hardin didn't care much for FAO. I also agreed that night to write to FAO about a plan for Ignatieff to take leadership for a third edition of Efficient use of fertilizer.

October 16 through 19. We discovered in the morning that it was the Canadian government that cancelled the meeting without urging from the United States. The brunch was very nice with many little historical, humorous, and "pretty" speeches.

We had already planned to spend some time chez Ignatieff. We checked out, got our cars ready, and left Quebec City about 1:25^P. Since neither Mommy nor I knew the way the Major rode with Mommy and I rode with Florence. We reached their home in Richmond about 3:25.

This gave the Major and me four evenings and three days of almost uninterrupted conversation, except for radio news about the FLQ.

I listed a great many books that he was anxious to have. During our visit we drove around a bit and looked at the place his parents had, which is now rented.

October 20 we left the Ignatieff home for our home at 7:25 a.m. and headed straight for the border. I was a bit concerned since the radio reports explained that the Americans were stopping and searching all cars coming from Canada.

We came to the border about 8:50. The official asked Mommy if she were an American citizen and she said that she was. He ignored me. Then he asked her, "Do you bring anything back from Canada?" She replied, "Only a great deal of Canadian friendship." He waved her on with a smile without asking for any kind of an identity card. (Of course I went too.)

It was a beautiful day on the winding roads of Vermont. We went through Rutland to the New York Thruway and stopped for the night near the south end of it.

October 1970

October 21 we continued our journey home on the turnpikes and stopped near Simpsonville to get Shem. He was hoarse from crying.

We returned home about 12:30 in the rain.

Mommy and I were happy to be home but Shem was far more so.

October 22. The boys had done a pretty good job and I got nearly current with the mail.

October 23. I had many long letters to answer including one rather silly one from FAO about my criticism of their many errors in their long-time plan. Also I had a long one to Dr. Ralph McCracken about future programs for the Soil Science Society. Also the 1970 Agricultural Yearbook came out. It had a few good pictures but most of the text was worthless by people who knew nothing about their assigned subjects.

October 24. I cleaned up the garden by about 3:00 p.m. Then we drove to Dulles airport to pick up Dr. René Tavernier whose plane was late. We had much to talk about and were late to bed.

October 25. After a leisurely breakfast and walk in the garden I took Tavernier to Dr. Smith's home for dinner and talk. Late in the day he walked back.

The National Research Council had a meeting on Tropical Soils chaired by Dr. Drosdoff which included Tavernier, Aubert, Moormann, D'Hoore, Coulter, Bunting, and perhaps others. *(This dinner was good)*

October 26 I worked on correspondence in the morning and in the afternoon on materials for some sort of US-Canadian program "to clean up pollution" in the Great Lakes and along the St. Lawrence.

October 27. Most of the day was spent in a long session on Marlin Cline's outline for the new manual, together with assignments. I was supposed to work up a list of books that should be in each Soil Survey headquarters, a list of historically important US soil surveys, a list

of current recommended US soil surveys, and a list of foreign soil surveys.

Johnson had picked up some kind of a rumor that Grant was being pushed for "cheaper" published soil surveys.

October 28. I made a bit of a start on the bibliographies.

October 29 I got a bit more done on the bibliographies. In the evening Mommy and I went to the Johnsons for a delightful dinner and evening with Tavernier, Aubert, Moormann, D'Hoore, and Guy Smith.

October 30. In addition to correspondence I spent much of my time with our Soviet guests who had concluded their tour. That evening Mommy had a very nice party for them, together with the Johnsons, Tavernier, and Joe Bulick.

October 31 Rene and I did a bit of talking and he helped me take some old beds from the upstairs to the basement and to move some new ones from the basement to the upstairs.

At about 4:30 Bill Johnson came to take Tavernier to the airport.

November 1 I cleaned up leaves until a little after 1:00 p.m. In the early evening Mr. and Mrs. Dykes came for cake and coffee.

November 2 Roy Hockensmith returned from an inspection of the work in Ohio and thought that things were much improved administratively.

We had a meeting of the FAO Interagency Committee. It was just a pity that the State Department and the White House ^{were} ~~are~~ quibbling about insignificant funds being added to the US contribution. It was obvious that the Secretary or some others did not care about FAO and that the people of the US knew little about it. For about the 4th time I pointed out that the US government gives conflicting points to official delegations going to FAO, UNESCO, and the other specialized agencies.

November 3 Mommy and I voted early and she took me to the office to arrive at 9:00. It turned out that Professor Tavernier was supposed to have left some \$33.75 with me for some publications he wanted for his Institute. I gave Guy \$16.88 to share the cost with him.

November 4. In addition to office routine I had to go over an absolutely silly report on monitoring the environment done by a private contractor having no competent staff. This was typical of the kind of corrupt activity of the current White House.

We had a very heavy rain.

November 5. I worked a bit on the Soil Survey Manual and a lot on the silly manuscript on the environment.

November 6 I cleaned up the leaves in the garden between about 7:00 a.m. and 3:00 p.m.

Robert, Joan, and the children came about 6:00.

That evening our widowed daughter, Mary Alice, was married to Robert Crecco in our home. About thirty people were there. Mommy outdid herself for this occasion which went very well indeed.

November 7. A bit of rest early in the morning and then talk with Robert and the family.

November 8. Robert and his family left after lunch. About 3:00 Mommy took me to the Shoreham Hotel where I registered for a large convention of the State Universities and Land-Grant Colleges. Bill Johnson came to the hotel about 4:30 for Swindale and I rode with them to his home. Mommy was there and after a little chatting we came home.

November 9 I attended the morning session on research planning at the land-grant meetings and took care of my office mail in the afternoon.

November 1970

November 10 I attended the morning meetings on community planning. It was pleasant to see so many old friends whom I had worked with over the years.

In the afternoon I took care of the office routine and got a bit done on the bibliographies.

November 11 (Veterans Day). Mommy and I spent the forenoon on this c.v.

November 12 and 13. These were routine days in the office with mail and conferences and a little work on the Soil Survey Manual.

November 14 I took leaves out of garden and made compost from 7:30a.m. to 3:30 p.m.

November 15. Worked on maps and read. In the evening chez Johnson.

November 16. Another routine day at the office with conferences, visitors, and mail. Worked some on Soil Survey Manual

November 17. I worked on Soil Survey Manual and heavy correspondence including correspondence with FAO and Ignatieff on a new edition of Efficient use of fertilizers.

November 18 I studied reports of trouble between USGS and SCS in Colorado. I attended a meeting of the advisory committee of NAL. Sherrod said that many of the staff were leaving. Of course this is due to his bad management.

November 19. Many conferences and some work on Soil Survey Manual. I attended the Alpha Zeta luncheon. The speaker discussed the economics of agriculture about which he knew nothing. Yet he was on Nixon's Economic Council. What a pity!

November 20. Worked on the Soil Survey Manual between conferences and mail.

November 1990

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November 21. Worked in the garden with leaves and compost most of the day.

November 22. Worked on leaves and compost until about 1:30 p.m.

November 23. Worked a little on Soil Survey Manual and then had to answer some criticisms about the material being printed in our cartographic units.

November 24 I spent much of the day studying a very rash and difficult criticism of the work of our people in Indiana by a soils consultant of doubtful scholarship.

November 25. Routine memos and correspondence with considerable work on Soil Survey Manual.

November 26. (Thanksgiving). Worked a bit in the garden and in the afternoon went to dinner chez Mary Alice.

November 27. I was on annual leave. Worked in the garden making compost from about 7:30 to 3:15.

November 28. Finished with leaves and compost about 1:00 p.m.

November 29. Mostly reading.

November 30. Homan and Hooper of Cartographic received an award for their work with high-flight aerial photographs. Worked with the difficult problem of finding space to store our published soil surveys. The matter comes up about every ten years.

December 1 I talked to a large group of new area conservationists about our national system of soil classification and on town-and-country planning.

I had a good and effective talk with Joe Robertson about our space needs for published soil surveys.

December 2. In the morning I had a long talk and lunch with Leo Anderson about his work in Lybia and several other projects. He told me

1970
that Lybia had expelled all the Arab-speaking Italian farmers and agreed to bring in a great many Egyptian farmers. This will be bad for Lybia.

In the afternoon Orvedal came in and explained he was having another psychological depression. This may have resulted partly from overwork, I don't know.

December 3. In the morning I had a brief visit with Dr. Lischenko, assistant to the agricultural attaché of the Soviet Embassy. He had just returned from home leave in Moscow and told me that the two visitors recently here from the Soviet Ministry of Agriculture gave glowing reports on our courtesies to them. He brought me one of the famous doll sets with successively smaller dolls in the larger ones.

Then I had an enormous load of memos and letters. I looked over Dr. Cline's first draft of the introduction and first chapter of the Soil Survey Manual. It has errors.

December 4. In the morning I had a considerable talk with Dr. Cline in my office about his work so far and pointed out some of the things that had to be done.

The afternoon was very busy. Mary Alice and her family had dinner chez nous.

December 5. Gathered leaves from gutters and garden and made compost from 8:00 to 5:00.

December 6 I worked in the garden until about 1:30. The compost was essentially finished.

December 7 I was on annual leave. I went to the dentist for a small filling. Took my old car to get the door fixed, helped Mommy prepare the study for a new ceiling, and worked on the Soil Survey Manual along with a few other chores.

December 8. I had an enormous batch of memos, letters, and problems. Again silly Van Dersal had put forward a statement of the soil survey funds -- about \$1,350,000 -- received from local governments -- as "savings." This is utterly absurd and I am afraid I lost my temper a bit. Then too, I had to work on the author's guide for writing soil survey manuscripts.

December 9. I finished the work on Dr. Cline's first draft and a long memo to him and handled much mail and many other memos.

December 10. I finished going over the author's guide for soil survey manuscripts and a speech for Penn State to be given by telephone 20 January next. I also had many letters and memos to deal with.

December 11. This turned out to be a rough day with difficult letters, memos, and conferences. Some of the letters were very difficult including congressional ones, and a completed draft on the Indiana problem about the soil consultant. I was very happy to realize that it was Friday.

December 12. It rained and I staid inside fixing some furniture and helping Arthur Thorne a bit. He nearly finished the ceilings of the study and the kitchen. Late in the afternoon Mommy and I worked on this c.v.

December 13. Arthur Thorne finished the sanding. I fixed furniture and took off some of the doors of the kitchen cabinets.

December 14. I drove to the office. When I went to pay for my lunch I found that I had left my wallet at home and borrowed \$5.00 from Art Greeley. I cleaned up quite a group of memos and letters and attended a last-minute conference on the budget. Nobody really knows what will be done because OMB (Office of Management and Budget, which replaced the Bureau of the Budget, organized to give Nixon more direct, personal power.) threatens to impound some of the appropriation.

December 15. I staid home and removed some doors to take a bit off

the bottom. I removed the rest of the cabinet doors in the kitchen and cleaned the hardware.

December 16. The painters came just before I left for the office. Much of the forenoon was in conference with Koch, the state soil scientist in Virginia over the very bad relations with 2 or 3 of the soil scientists at the Virginia State Agricultural Experiment Station. Previously I had discussed the question with the director of the station and he had agreed to meet with our state conservationist, but he never did. There were many other calls and conferences. Heavy rain today.

December 17. I again re-read the new draft of the future plan of the Service. Many of my earlier suggestions were adopted and this draft was better but still weak on planning and research. Just about that time, perhaps a few days earlier, we sent out to all soil scientists a brief statement I had prepared as an essay on the principles of planning for the use of soil surveys.

In the afternoon I attended an extremely dull SCS Christmas party.

December 18. I staid home and put the hardware on 22 cupboard doors. I also cleaned up the front lawn.

December 19. This Saturday I replaced the doors in the kitchen and did some other fixing and cleaned up the leaves from the back garden.

December 20. I spent about three hours in the garden. Did a few other chores, covered books, and read.

December 21. I took leave and worked on books, sorted the FAO papers from the 1945 FAO conference in Quebec, ^{at} went over Dr. Marbut's personnel papers, and wrote some abstracts of foreign soil surveys for the Soil Survey Mannual.

December 22. I drove to the office in heavy rain. I cleaned up many letters and memos and worked a bit on the Soil Survey Manual and ~~revised my reading list.~~

a) Most of which were sent to FAO Library.

December 23. I remained home and worked on the Soil Survey Manual and revised my reading list.

December 24. I staid home and did a few chores including cleaning up a few leaves from the lawn. I read a bit of Pepys and drafted some letters. The Johnsons and Mary Alice' family had dinner chez nous.

December 25. We spent the forenoon with Mary Alice and her family. In the afternoon I read Pepys and Mommy and I had dinner chez Johnson.

December 26. I did some reading and a few chores. In the afternoon Robert, Joan, and the children came. We had our dinner at home and went to Mary Alice' for dessert and the evening.

December 27. Robert left in the morning for the MLA meetings in New York. It was cold and I read most of the day.

December 28. Went to the office and got the accumulation pretty well cleaned up. It was a cold day.

December 29. I staid home on a cold Tuesday and spent much of it in reading and writing.

December 30. Still on leave, I finished the first three volumes of Pepys, a book on economics, and some other items. Robert returned about 4:15. Robert, Joan, and family leave tomorrow.

December 31. I went to the office to serve as Acting Administrator. I cleaned up quite a backlog of letters, memos, and so on. Also I had a long conference with the Indian soil scientist in charge of India's new research center on soil salinity, now on tour in the United States. I drove home in a heavy snow that continued until morning.

January 1971

1971.

January 1. I spent the first half of the New Year's day shovelling snow and knocking it off the most important plants. I did a few other chores and made a good start on the Holmes-- Pollack letters.

January 2. A bit of painting garden stakes, but mostly reading and writing. About 6:00 p.m. the Johnsons came by for us and we had dinner chez Austin.

January 3. A few chores and reading.

January 4. Mr. Wachter of American Home Improvement Company came by and we signed a contract for new ceiling in our bedroom, for all the upstairs together with painting and papering. (This was expanded a bit later to include a new living room ceiling and its painting. I moved the upstairs books into the attic and those from the bedroom into the basement.

January 5 I went to the office and found some accumulation and a long, rather complex manuscript by Marlin Cline for Chapter 3 of the Manual.

Wednesday, January 6, was a busy day at the office and I about completed Marlin's draft for Chapter 3.

January 7 I had a rather unsatisfactory conference with Ray Heinen about very bad reports of Resource Conservation and Development projects about which he knows nothing.

I had a conference with the Forest Service people about an itinerary for Professor Ciric of Yugoslavia.

About 1:30 Mommy came by and took me to Saltz' new store in Chevy Chase where I bought a new sports coat and slacks.

January 8 I took annual leave at home. We moved quite a few things to get ready for the redecoration of our rooms. I sorted out references for "the book" and did several hours of office work.

The Dykes, Mary Alice, Bob, and the children had dinner chez nous.

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Saturday, January 9, we took more things out of upstairs rooms for the redecoration job.

Sunday, January 10, I did quite a bit of reading and we moved paintings, rugs, and objets d'art from bedroom and living room.

Monday, January 11 was a busy day including a conference with Grant on our standard memos of understanding with the state experiment stations regarding mutual acceptance of the SCS state soil scientists. I also discussed with him unfruitfully the date of my retirement.

January 12. I spent part of the forenoon speaking to and with a large group of new SCS area conservationists. I worked on other memos and speeches including materials for Grant to use at the conference of National Cooperative Soil Surveys in Charleston January 25.

January 13. In the forenoon I attended the FAO Interagency Committee at which 99 percent of the discussion was about the politics of FAO and keeping down the FAO budget. This attitude not only makes us look silly but is silly. It seemed absurd to everyone that the administration would complain bitterly of one or two million dollars when Nixon wastes several times that on unnecessary assistants and White Houses. There was no discussion of any substantive work of FAO.

After lunch there was a little retirement "do" for Jaedicke.

In the afternoon a few of us had a seminar with a Mr. Pierre Terber of FAO. He is some kind of Assistant Director General dealing with development projects financed largely by the UNDP. He talked about country planning and programming; but still sticks mainly to projects, partly to fill gaps. He doesn't think there will be funds to do otherwise.

He insisted on speaking English but with such a poor pronunciation of long words that I didn't get everything. He spoke of developing

January 1940

"country profiles" as a start toward country planning. He also said that FAO had a plan for collecting data for a large bank to bring together information, such as all of the data on rice.

He said that good field cooperation depends on local people in the several agencies knowing that there was cooperation at the top. I challenged him on this. People at the top are worried about prestige and abstractions. People in the field are dealing with real things. It would be nice to have cooperation in the field and at the top but the best you can ever hope for is to keep people at the top from preventing cooperation in the field.

January 14. Mrs. Sawyer was ill. I did finish getting up the stuff for the National Academy for the visit of Professor Ciric.

In 1938 USDA permitted me to put aside 250 copies of Soils and Men. About 55 of those were left. I worked out a form letter to send to colleges and research institutes that might not have had an opportunity to get it before 1940. Mrs. Bruno at the library sent me excellent compilations of colleges by countries and I started the list.

January 15. In the morning I went to the Department photographer for a portrait which turned out to be terrible. I worked on the mail, had several conferences, and did a lot on the list of libraries.

Louis Derr called after a long absence from serious illness.

January 16. I worked on an upstairs closet and disposed of most of the rubbish left by the workmen. The electrician was here to do some of his work.

January 17. I did a few chores and read. In the afternoon I watched on TV while the Baltimore Colts won the national football championship, by a hair in the last five seconds.

January 18. In the early morning I took care of my correspondence and then went to Harris and Ewing for another try at a portrait.

I nearly completed the library list for Soils and Men.

January 19. In the forenoon I attended a seminar on India led by Dr. Douglas Enslinger (summary attached).

In the afternoon I had a short conference with Ken Grant who was obviously a bit nervous and confused. I simply wanted to inform him on the speeches and so on that I had lined up.

January 20. In the morning I had a long talk with Marion Clawson of Resources for the Future, who wants to get money from the Ford Foundation for economic studies of potentials in the tropics. I gave him some materials and many references and urged him to get in touch with Drosdoff in Cornell. I did not expect much from him based on the poor performance of Resources for the Future.

At 3:30 in the afternoon I gave a speech by telephone to a group at Penn State University who were working with the National Cooperative Soil Survey in that state. Mainly I talked on the use of soil surveys for town-and-country planning. Apparently it went well.

Then I finished my correspondence.

January 21. In the morning I had a conference with M.D. Penkov of Bulgaria who had an FAO fellowship for a study trip in the US. I had a good impression.

We had a rush statment to do on the place of Soil Survey in the general category of "Resources and environment."

After lunch we had a general conference chaired by Verne Bathurst on the several programs of the Soil Survey for which we use computers.

Friday, January 22, shortly after I arrived at my office I was given a few hours to prepare a full statement of the purpose, objectives, and justifications of our Soil Survey program in Alaska! (See attached.)

1235a
January 19, 1971

SUBJECT: Seminar by Douglas Ensminger January 19, 1971,
"The Green Revolution--How Green?" (India)

TO: Files *Cell*

Dr. Ensminger began by saying that "The Green Revolution" was a dangerous term. From it some assume that India has solved its food problem. He looks upon the final solution as a process.

He pointed out a great change now in the outlook of the village people. National policies were changed also. At first the government insisted on cheap food. It took a monsoon failure for them to establish support prices for farmers. They also used foreign exchange for fertilizer.

With these changes the dwarf wheats of Mexican origin could be introduced.

Up to now the biggest breakthrough has been in wheat, especially in areas with assured irrigation. He quotes Don Williams as saying that it will take much more time to bring in new acres under assured irrigation.

(I feel that both Williams and Ensminger are not giving enough attention to wheat growing with well-made contour terraces to store monsoon water.)

Paddy rice has not advanced as far as wheat. First of all, the wheat producers were already more market oriented.

Wheat has a much wider range of adaptability in India than rice. Rice is more sensitive to local environments. Diseases and insects may bring down yields very low. He quotes plant breeders that say that new insects and diseases must be discovered within 7 hours and the crop treated within 7 hours after that or the yield will be cut in half.

The plant breeders are developing local varieties with resistance. They feel success is at least 5 to 7 years away. Also rice is more a part of the total culture than wheat. Some of the varieties are not acceptable for taste or consistence. Then too, there are about 8 major environments which means at least 8 new varieties.

January 19, 1971

Article by Douglas Henderson, January 19, 1971
"The Green Revolution--How Green?" (India)

[Handwritten signature]

The Green Revolution began by saying that "The Green Revolution" was a
new form. From it some states have gained the
best results. The focus upon the Green Revolution as a process.
A point out a great change now in the nature of the village
people. National policies were changed also. At first the govern-
ment insisted on cheap food. It took a common failure to turn to
national support under the banner. They also need foreign
exchange for fertilizer.
With these changes the best wheat of Indian origin would be
introduced.
To do now the biggest investment has been in wheat, especially in
areas with almost no irrigation. In 1965 Don Williams was saying
that it will take more time to bring in new areas under irrigation.
I feel that both Williams and Brunninger are not giving enough
attention to wheat growing with well-watered conditions in some
season water.)
Wheat has not advanced as far as wheat. First of all, the
best products were already some wheat countries.
Wheat has a much wider range of adaptability in India than rice.
It is more sensitive to local environments. Diseases and insects
yields are very low. The water plant irrigation that says
that new diseases and diseases must be discovered within 7 hours and
the crop treated within 7 hours after that or the yield will be cut
in half.
In plant breeders are developing local varieties with resistance.
They feel success is at least 5 to 7 years away. Also rice is more
part of the local culture than wheat. Some of the varieties are
incompatible for taste or quality. Even too, there are about
major developments which come at least 5 new varieties.

Dr. Ensminger says that "food enough" did once mean simply enough to meet survival needs. This is inadequate. People should have at least 2200 calories plus the other nutritional components. They also need a large carry-over for the odd bad year or two.

Those not now participating in this new effort realizes that they are falling still further behind. Here I think he was referring to the landless villagers.

He says that India must make now some new policies. He is especially concerned with the landless laborers and those with very little land. They are worse off in some areas because the others have made most progress. This, he says, means a new approach to land reform. As it is now, many feel they have no right to make a living.

He speaks of mass rural work-programs to give the landless people a chance to earn a living. He thinks the government must have a policy to insure minimum income.

Up to now, most of the effort has been in areas of assured irrigation. And something is needed for the rain-fed areas. This he thinks will take well into the 1970's at best.

(I think this has resulted mainly from American influence. Ministers like to see big dams and canals and Americans like to build them and to supply pumps.)

He thinks that the government must commit itself more heartily to family planning.

After Dr. Ensminger's talk there was quite a bit of discussion. A great deal of this is terribly confused, again over terminology. Ensminger means by "agriculture" entirely farming. Actually he admits that the villages have both marketing and industrial sectors as well as farming in their agriculture. He admits that there are no adequate programs for education leading to electricians, mechanics, and all the rest that is needed for agriculture.

He points out rightly that India cannot follow the materialist society of the United States, but it can have a good life of plenty of space for the children and good living in villages and small towns. He goes on to discuss a bit the kind of culture that can be achieved that India wants. He thinks Americans may be able to help them gain a better mixture of all segments of agriculture and of society.

He sees need for bringing up the old Congress Party. But he thinks this will be difficult. It will be hard for Indians to accept multiple leadership.

...the other nutritional components. They also need
...for the odd year or two,

...in case you find yourself in a position to be
...I think we are looking for the

...He is especially
...and the Japanese and the very little land.
...and the other have made much
...This, in fact, is a new approach to land reform. It is
...they have the right to make a living.

...of mass rural work-programs to give the landless people a
...to earn a living. The public and government must have a policy
...landless people.

...of the effort has been in terms of increased production.
...is needed for the landless people. This he thinks will
...will take the 1930's as past.

...this has revealed mainly from American intelligence. Ministers
...and canals and roads like to build them and
...supply water.)

...that the government must commit itself more heavily to
...itself.

...Mr. Swaminger's talk there was quite a bit of discussion. A
...at this is terribly confused, again over technology.
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He says that India is very weak in two areas of farming: (1) water management (I am sure Don Williams told him this), and (2) plant protection.

He makes a good point that the World Bank should loan on water management only for the development of areas, not just for building canals.

He thinks the current cultivators will make progress, yet they will be held back by the strong forces of tradition, some of them. Their children will be able to go further; and their grandchildren will go still further in good technology and living.

Charles E. Kellogg

...that India is very much in the hands of the British. (1) ...
...I am sure that Williams told him this, and (2) ...

...a good point that the World Bank should have been on ...
...the development of ... and they are ...

...the current cultivators will make progress, yet they will ...
...the every factor of ... some of them, ...
...will be able to go ... and ...
...in good ... and ...

... E. ...

1235-d
UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

January 22, 1971

SUBJECT: Soil Survey Program in Alaska

TO: W. B. Davey
Deputy Administrator for Field Services

The attached sheet shows the published soil surveys in Alaska and other published studies in Alaska together with plans for the next few years.

The early surveys published before 1960 were mainly intended to appraise the potentials for farming and to learn about the nature and characteristics of the soils. The exploratory study made in 1946 and 1947, partly at the suggestion of the House Committee on Agricultural Appropriations, showed clearly that the amount of land suitable for commercial farming in Alaska was limited. The costs for production were bound to be high and, of course, the farm products selling price could not be greater than the price at Seattle plus air freight. During this investigation, however, the authors of the monograph were informed of, and were shown, the beginning of the petroleum development in the north. This secret information could not be discussed until considerably later when it became public. In addition to this there were prospects for other types of mineral exploitation. Then when Alaska became a state, serious questions of land allocation arose. Finally, it was not difficult to conceive of the possibility, probably remote but not to be neglected, that northern Alaska could be a target for military operations. Installations were needed for the defense of North America.

Based on these considerations, it appeared highly desirable to the United States that we have a good reconnaissance soil survey of the state, excepting perhaps the Aleutian Islands. Of course, the survey for this map makes full use of all the other work that has been done over the years. Most of that work was done where there was some thought, at least, of possibilities for farming or town development.

So the plan was made, based only in part of the general map in Agricultural Monograph No. 7, but mainly on air photo interpretations and the results of geological surveys and other surveys. This planning map indicated the broad kinds of landscapes. In each of

these one or more sample areas were chosen for detailed survey. Competent soil scientists reached these mainly with the use of aircraft. They described the soils and mapped them in normal detail as in any other soil survey. The soils were correlated and named within the national system. As these sample areas became available, it was then possible, with the aid of air photos and helicopters, to sketch the boundaries between the sample areas. At first we called these "exploratory surveys." But because of the equipment available and the absence of thick tree cover, it turned out to be possible to sketch the boundaries more accurately than we had originally assumed so that this map fits more accurately the designation of a reconnaissance soil survey.

According to our present estimates and assuming the current manpower, and some summer assignments of additional people, the field work can be completed about September 1974. Then, of course, the map will need to be accurately compiled on a controlled base for reproduction.

We feel very strongly indeed that this effort has a high priority in the national interest to exploit petroleum and other mineral potentials, and also to protect the human and natural resources. Roads and other transport facilities need to be constructed by both public and private agencies, who will need careful guidance.

We already have some familiarity with the enormous difficulties in Alaska and in the northern part of what is now the Soviet Union in constructing railways, highways, buildings, oil lines, and other expensive works. In the tundra soils there are huge lenses and wedges of ice. Without proper precautions disturbance of the surface layers can lead to summer melting of this ice with almost disastrous results.

We are fortunate to have as State Soil Scientist in Alaska Dr. Samuel Rieger, who is perhaps the leading expert in the United States on these soils, with study and experience of the tundra landscape. He has also two soil scientists helping him who have already gained a great deal of experience. All well-managed companies and government agencies developing these wild parts of Alaska will vitally need this soil map and its interpretations to avoid failures, high maintenance costs, and serious harm to the environment.

The area must support the Eskimo villages. These need to be considered; as well as many kinds of fish and wild animals. Some of these furnish food and fur. Their exploitation also needs to be controlled so that the numbers do not become unduly diminished.

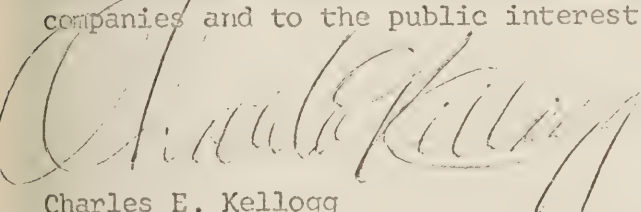
Mr. Davey

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We also recognize that Alaska has some of the most beautiful and interesting scenery and nature-study areas in the world. If transport is developed and suitably located facilities are made available, many people in the United States will find great enjoyment and educational benefits from visits to the great tundra plains and the beautiful mountains and rivers of Alaska.

We do not wish to create any impression that all of these benefits can be had only from a good soil survey. Additional geological studies need to be made also. And so do demographic studies in the Eskimo communities. People expert in the vegetation and especially the animals of the wild parts of Alaska have contributions to make.

Yet, we do submit that without the soil survey no combination of other studies can avoid serious and costly errors for private companies and to the public interest.



Charles E. Kellogg
Deputy Administrator
for Soil Survey

Attachment

1235 d.4

SOIL SURVEYS IN ALASKA

Published soil surveys:

Fairbanks Area (217,436 acres) - 1963
Kenai-Kasilof Area (238,248 acres) - 1962
Matanuska Valley Area (449,300 acres) - 1968
Northeastern Kodiak Island (307,207 acres) - 1960

Based on field research in 1946 and 1947, soil scientists published Agricultural Monograph No. 7, Exploratory Study of the Principal Soil Groups of Alaska (138 pp. and map).

Soil surveys in press:

Homer-Ninilchik Area (271,500 acres)

Soil surveys on publication schedule for FY 1972:

Salcha-Big Delta Area (250,240 acres)
Susitna Valley Area (714,880 acres)

Soil surveys on three-year schedule for completion of mapping:

Goldstream-Nenana Area (350,000 acres) - 1972
N. Prince of Wales Area (1,236,000 acres) - 1972
Kupreanof-Mitkof (900,000 acres) - 1973
Juneau (120,000 acres) - 1972

Reconnaissance soil surveys have been completed on 158,000,000 acres on June 30, 1970.

Soil surveys with field soil mapping completed and special report for local use only:

SW Kenai Peninsula (548,918 acres)
Kenai Nat. Moose Range (982,350 acres)

Soil surveys with field mapping in progress:

Copper-Chitina (500,000 acres)

Surveys of about 34 remote areas comprising 400,000 acres. Field mapping is completed in 29 of the 34 areas. Special soil reports are completed and reproduced for about 18 of these so far, and will be done for the other 16.

A special soil survey with special soil report is completed for the City of Homer (7,000 acres).

In the long-range plan all of the National Forest land in Alaska is to be covered by soil surveys.

During FY 1971 reconnaissance soil surveys are expected to be completed on another 50,000,000 acres.

The field work for the reconnaissance soil survey (except possibly for the Aleutian Islands) for all of Alaska is expected to be completed by September 1974, assuming present rate of work by the three full-time soil scientists with some help from soil scientists detailed for three months each summer.

Many other memos had to be handled too. I had a conference with the USDA security people.

At the last moment Ken Grant called about a memorandum I had sent to him many days earlier about the extreme necessity for a competent man to devote his whole attention to our work in relation to the earth resources satellite.

On the whole a rough day.

Saturday, January 23. A few chores arising from our redecorating job at home.

January 24. We replaced the books in the downstairs bedroom and added some books from the new room. Mommy took me to the airport in the afternoon and I took the plane to Charleston, S.C. At 5:00 in the afternoon I was in my room. This was the beginning of the National Work Planning Conference for the National Cooperative Soil Survey. We had a large group of nearly 70 this time. (The proceedings are to be filed with the Soil Survey history.) A copy of the agenda, planned list of those attending, and the final list are attached.

January 25. The program for the day was not especially interesting. It gave the other agency representatives and representatives of the four land-grant regions a chance to report. The representative of the Bureau of Reclamation was frightfully bad.

January 26. The meetings were quite technical and somewhat controversial but good progress was made.

January 27. Do.

I should have been a bit surprised that Mr. Hockensmith had arranged a dinner, but I had no reason until I was presented a fine plaque as "The greatest teacher ever." by the principal soil correlators. Guy Smith was

THE NATIONAL TECHNICAL WORK-PLANNING CONFERENCE
OF THE COOPERATIVE SOIL SURVEY
January 25-28, 1971
Sheraton-Fort Sumter Hotel
Charleston, S.C.

A G E N D A

Charles E. Kellogg, Chairman

Monday, 1/25

| | | |
|-----------|--|--|
| 8:30 a.m. | Registration ----- | Clarence M. Ellerbe, in Charge |
| 9:00 | Introductions, Purpose of Conference, Announcements, etc. ----- | Charles E. Kellogg |
| 9:15 | Welcome to South Carolina ----- | Norman E. Shuler, Assistant State Conservationist, S.C. |
| 9:25 | Welcome to Charleston ----- | J. Sidi Limehouse, Chairman Charleston County SWCD |
| 9:35 | Statement by Kenneth E. Grant, Administrator, Soil Conservation Service, USDA | |
| 9:50 | Remarks by R. Dudal, FAO, Rome. | |
| 10:00 | Recess. | |
| 10:15 | Accelerated Publication of Soil Surveys - William M. Johnson | |
| 10:30 | Soil Survey in Canada ----- | Walter A. Ehrlich |
| 10:50 | Soil Climate in Canada ----- | J. S. Clayton |
| | <u>Statements by Land-Grant University Representatives:</u> | |
| 11:20 | Northeastern Region ----- | D. S. Fanning |
| 11:40 | Southern Region ----- | David E. Pettry |
| 12:00 | Lunch. | |
| 1:00 p.m. | North-Central Region ----- | L. P. Wilding |
| 1:20 | Western Region ----- | R. J. Arkley |
| | <u>Uses, Needs, and Priorities for Soil Surveys:</u> | |
| 1:40 | Extension Service ----- | Harold I. Owens |
| 2:00 | Bureau of Land Management ----- | Ronald L. Kuhlman |

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2:20 Bureau of Indian Affairs ----- J. D. Simpson
2:40 Forest Service ----- Olaf C. Olson
3:00 Recess.
3:15 The Weyerhaeuser Company Soil Survey
Procedure ----- Thomas A. Terry
8:35
4:00 Studies on ~~Tropical~~ ^{in Thailand} Soils by the Bureau
of Reclamation ----- Harold L. Parkinson
5:00 Distribution of all committee reports by committee chairmen.
7:00 Committee meetings.

Tuesday, 1/26

8:00 a.m. Committee 1 - Technical soil monographs, bench mark soil studies,
and soil laboratory studies. J. M. Williams, Chairman.
8:30 Committee 2 - Classes and phases of stoniness and rockiness.
S.A.L. Pilgrim, Chairman.
9:30 Committee 3 - Standards for descriptions of soils.
Frank J. Carlisle, Chairman.
10:15 Recess.
10:30 Committee 3 - Continued.
12:00 Lunch.
1:00 p.m. Committee 3 - Continued.
3:00 Recess.
3:15 Committee 4 - Application of the soil classification system.
J. E. McClelland, Chairman.
7-9 p.m. Revision of Soil Survey Manual - Marlin G. Cline.

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Wednesday, 1/27

- 8:00 a.m. Committee 5 - Engineering application and interpretation of soil surveys. Keith K. Young, Chairman.
- 9:00 Committee 6 - Handling soil survey data. A. C. Orvedal, Chairman.
- 10:00 Recess.
- 10:15 Committee 6 - Continued.
- 11:30 Progress report on use of ADP in processing correlations and preparing tables for soil survey manuscripts. L. J. Bartelli.
- 12:00 Lunch.
- 1:00 p.m. Committee 7 - Histosols. W. E. McKinzie, Chairman.
- 2:00 Committee 8 - Criteria for classification and nomenclature of miscellaneous land types and definition of "topsoil" used to resurface cuts and fills. Guy D. Smith, Chairman.
- 3:00 Recess.
- 3:15 Committee 9 - Soil moisture and temperature in relation to soil classification and interpretations. R. B. Grossman, Chairman.
- 5:00 Remote Sensing - A. C. Orvedal.
- 5:30 Cash Bar.
- 6:30 Conference Dinner Meeting (Wives welcome).
Presiding: L. J. Bartelli and J. E. McClelland.
- 8:00 Movie - "From a Distance."

Thursday, 1/28

- 8:00 a.m. Committee 10 - Soil family criteria. J. E. Brown, Chairman.
- 8:30 Committee 11 - Soil interpretations at the higher categories of the new soil classification system. J. D. Rourke, Chairman.
- 9:30 Committee 12 - Soil survey procedures. J. W. Kingsbury, Chairman.
- 10:00 Recess.

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Thursday, 1/28

- 10:15 a.m. Committee 13 - Soil surveys of forested lands.
O. C. Olson, Chairman.
- 11:15 Committee 14 - Environmental soil science.
L. J. Bartelli, Chairman.
- 12:00 Lunch.
- 1:00 p.m. Committee 14 - Continued.
- 1:00 Soil studies near Sardis, Turkey - G. W. Olson.
 1:30 Use of fertilizers and water quality - V. J. Kilmer.
- 2:00 Closing remarks by Charles E. Kellogg.

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NATIONAL TECHNICAL WORK-PLANNING CONFERENCE OF THE COOPERATIVE SOIL SURVEY, 1971

| <u>NAME</u> | <u>ROOM</u> | <u>NAME</u> | <u>ROOM</u> | <u>NAME</u> | <u>ROOM</u> |
|---------------------------------|-------------|---|-------------|-------------------|-------------|
| ACKERSON, K.T. | _____ | HOCKENSMITH, R.D. | _____ | PARKINSON, HAROLD | _____ |
| ANDERSON, W.L. | _____ | <i>Hughes Cwayerhauser</i> JOHNSON, W.M. | _____ | PELZNER, ADRIAN | _____ |
| ARKLEY, R.J. | _____ | KELLOGG, CHARLES E. | _____ | PETTRY, D.E. | _____ |
| BARTELLI, L.J. | _____ | KILMER, V.J. | _____ | PILGRIM, S.A.L. | _____ |
| BROWN, J.E. | _____ | KINGSBURY, J.W. | _____ | ROURKE, J.D. | _____ |
| BYRD, H. J. | _____ | KLINGEBIEL, A.A. | _____ | RUST, R.H. | _____ |
| CARLISLE, F.J. | _____ | KOCH, C.J. | _____ | SHULER, N.E. | _____ |
| CLAYTON, J.S. | _____ | KUHLMAN, R.L. | _____ | SIMONSON, R.W. | _____ |
| CLINE, M.G. | _____ | LANGAN, L.N. | _____ | SIMPSON, J.D. | _____ |
| COOVER, J.R. | _____ | LEMMON, P.E. | _____ | SMITH, GUY D. | _____ |
| CUNNINGHAM, R.L. | _____ | LIMEHOUSE, J.S. | _____ | SOUTHARD, A.R. | _____ |
| DIDERIKSEN, R.I. | _____ | LINK, V.G. | _____ | STOUT, M. | _____ |
| DUDAL, R. | _____ | LINNELL, LYLE | _____ | SWANSON, D.W. | _____ |
| EHRlich, W.A. | _____ | LYTLE, G.A. | _____ | TERRY, T.A. | _____ |
| <i>Elerba</i> ENDERLIN, H.C. | _____ | McCLELLAND, J.E. | _____ | TURNER, R.I. | _____ |
| FANNING, D.S. | _____ | McKINZIE, W.E. | _____ | van der VOET, D. | _____ |
| FARSTAD, L. | _____ | MITCHEL, R.F. | _____ | WELLS, R.D. | _____ |
| FLACH, K.W. | _____ | OLSON, G.W. | _____ | WILDING, L.P. | _____ |
| GARLAND, L.E. | _____ | OLSON, O.C. | _____ | WILLIAMS, J.M. | _____ |
| GOCKOWSKI, J.A. | _____ | ORVEDAL, A.C. | _____ | WITTY, J.E. | _____ |
| GRANT, K.E. | _____ | OTSUKI, H.T. | _____ | YOUNG, K.K. | _____ |
| GROSSMAN, R.B. | _____ | OWENS, H.I. | _____ | | |

LIST OF PARTICIPANTS
1971 NATIONAL SOIL SURVEY CONFERENCE

January 25-28, 1971
Sheraton-Fort Sumter Hotel
Charleston, S.C.

WASHINGTON OFFICE

| | | | |
|---------------------|-------------------|------------------|-------------------|
| Charles E. Kellogg | J. A. Gockowski | A. A. Klingebiel | Dwight W. Swanson |
| Kenneth T. Ackerson | R. D. Hockensmith | A. C. Orvedal | Dirk van der Voet |
| F. J. Carlisle | Wm. M. Johnson | Roy W. Simonson | |
| M. G. Cline | Joe W. Kingsbury | Guy D. Smith | |

WASHINGTON-FIELD STAFF

| | | | |
|--------------------|--------------------|----------------|----------------|
| L. J. Bartelli | L. E. Garland | W. E. McKinzie | John E. Witty |
| J. Ellsworth Brown | R. B. Grossman | John D. Rourke | Keith K. Young |
| J. Coover | Lucien N. Langan | R. I. Turner | |
| Klaus W. Flach | John E. McClelland | J. M. Williams | |

SCS SOIL SCIENTISTS ON STATE STAFFS

| | | | |
|------------------|-------------------|---------------------|-------------|
| Hubert J. Byrd | C. J. Koch | Henry T. Otsuki | R. D. Wells |
| R. I. Dideriksen | Victor G. Link | Sidney A.L. Pilgrim | |
| G. M. Ellerbe | Robert F. Mitchel | Maurice Stout | |

OTHERS FROM SCS

Kenneth E. Grant, Administrator
Norman E. Shuler (Assistant State Conservationist, South Carolina)
Harold C. Enderlin (Engineering)
Paul E. Lemmon (Plant Sciences)
Wallace L. Anderson (Resource Development)

REPRESENTATIVES FROM LAND-GRANT UNIVERSITY REGIONS

North-Central - L. P. Wilding (Ohio) and R. H. Rust (Minn.)
Southern - S. A. Lytle (La.) and David E. Pettry (Va.)
Western - Rodney J. Arkley (Cal.) and A. R. Southard (Utah)
Northeastern - D. S. Fanning (Md.) and Gerald W. Olson (N.Y.), R.L. Cunningham (Pa.)

REPRESENTATIVES FROM OTHER AGENCIES

| | |
|---------------------------|--------------------------------------|
| Extension Service | - Harold I. Owens |
| Forest Service | - Olaf C. Olson and Adrian Pelzner |
| Bureau of Indian Affairs | - J. D. Simpson |
| Bureau of Land Management | - Ronald L. Kuhlman and Lyle Linnell |
| Bureau of Reclamation | - Harold L. Parkinson |

LIST OF PARTICIPANTS

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CANADA DEPARTMENT OF AGRICULTURE

Walter Ehrlich, J. S. Clayton, and Laurie Farstad.

OTHERS

R. Dudal, FAO, Rome.
Victor J. Kilmer, TVA, Muscle Shoals, Ala.
Thomas A. Terry, Weyerhaeuser Co., New Bern, N.C.
J. Sidi Limehouse, Charleston County, S.C.

January 1971

also given a plaque for his taxonomy. (For detailed notes see book #189.)

January 28. We continued with the conference and had a good session with many lively debates. I closed the meeting with a brief comment about about 2:00 p.m.

After a little rest I left for the Charleston airport and arrived in Washington about 7:50 p.m. and was home an hour later.

January 29. I had an early conference about automatic data processing and satellite photography. Then I attended the Secretary's advisory committee on the Library, which went poorly. Sherrod, with support from one committee member, proposed the silly idea of having subject-matter specialists in the Library. I pointed out that this was ridiculous. We could never begin to have enough of the specialities covered. What we needed were first-class specialists in libraries. They would have all of the top specialists of the Department to consult when needed. I made a strong plea for direct assistance to our younger people starting new research, which is one of the things that Sherrod wants to cut out. I again decided that progress would be hopeless with him as librarian. He thinks only of computers, and the bibliographies already developed by his scheme, are so full of errors as to be nearly useless. He had already stopped the excellent bibliography developed in the Library and substituted this poor and very expensive alternative by a private company.

After lunch I attacked my desk which had great stacks of books and letters.

About 3:00 in the afternoon Johnson and I had very useful discussions with Berg, Davey, and Campbell on the scheduling of soil surveys.

January 30. I worked on the upstairs bookcases, cleaned twigs from the garden, and did other chores. Mommy and I had dinner with a large group chez Johnson.

J. Lindstrom 1971

Sunday, January 31. I worked a bit in the garden, reviewed some books for the Soil Survey Manual, and read a bit.

February 1 I had a staff conference to develop a statement for the Administrator on the Soil Survey budget. Then I discovered that we must make comments on a silly and completely unreliable statement on the environment by a private group of people at MIT. I am sure that they got a lush fee for this utterly absurd statement. This was the second one of these we had had. Of course Nixon and his boys let these contracts to their political friends -- a standard form of corruption in this administration. (For the Nixon corruption see Buchwald's statement in the Washington Post -- attached.)

I read the MIT report and Bill Johnson started to write a critique of it.

In the afternoon Johnson told me about Grant meeting Roy Hockensmith in the hall and asked Roy if he had considered retirement. He told Johnson about this and he was very upset, and then Johnson told me.

I started a paper on soil conservation for ~~the~~ a British journal.

February 3. I went up to see Lindstrom and explained that this would make life difficult for Johnson. He would need Hockensmith very much.

Bill Johnson got to work on the silly MIT report and he did a good job.

With my staff we had a talk with several new state conservationists.

February 4. Lindstrom came in to explain that Grant had no such idea in mind about Hockensmith. Later Grant met me in the hall and said that I should know that he wouldn't suggest that any of my staff retire without telling me about it first. (But, of course, he already had!) Later I had a long talk with Hockensmith about it. I explained that I was sure that Grant liked him. Yet had had just had a memo to encourage people to retire. Roy was the first one he ran into. So I had to build up some pressure on the other side. I thought that Grant was a nice man but a bit immature. Then too, he was under terrible pressure with Nixon's absurd proposal to do

BITING THE HAND THAT LEADS US

Washington Post
Feb. 8, 1971

By Art Buchwald

It is now clear to everyone in Washington what President Nixon's Game Plan for 1972 will be.

It was all decided at a top-secret meeting of leading Republican strategists in Bebe Rebozo's basement at Key Biscayne. Everyone spoke his mind.

"It's obvious," one Republican pol said, "that attacking students, while very popular with the electorate, does not produce votes."

"We also know that permissiveness and pornography are not the gut issues we thought they were," another strategist said.

"We damn sure can't raise the law and order problem after being in office for four years."

"And we know the Southern strategy laid one of the big eggs of all time."

"We've got to come up with something that the people really feel strongly about."

"But what's left?" someone asked in desperation.

"Gentlemen," a party member said, "we have taken a survey and we have discovered the one thing that bothers the American people more than anything else."

"What is it?"

"The U.S. government."

Capitol Punishment

"The government?"

"That's correct. The people are even madder at the government than they are at their own kids. They blame the government for everything that is wrong in the country. Wall Street, labor, the farmers, the ethnic groups and even people in Civil Service are sore at the government."

"Are you suggesting Nixon run against the government?"

"Exactly. I propose we attack the government with the same vigor we attacked the doves, the intellectuals, and Senator Goodell. Our game plan will be to prove to the American people that the government is not responsive to the needs of the people."

"But we are the government," someone protested. "At least, we will have been the government for four years."

"All the more reason to attack it. If we say the government is no good, there isn't a person in this country who will not support us."

"We'll need a slogan. What about 'Power to the People?'"

"That's an inspiration."

"We could call for a revolution," someone said excitedly.

"Can't you just see Agnew going out across the country making chopped meat out of the bureaucrats?"

"We could hold anti-government demonstrations with Bob Hope, John Wayne, and Frank Sinatra."

"Billy Graham could organize a march on Washington."

"We could have Ronald Reagan burn his Social Security card."

"Martha Mitchell could stage a sit-in at the Pentagon."

"The possibilities are endless, gentlemen. Then we're all agreed that the strategy for '72 is an all-out attack on the American government?"

"There wasn't a dissenting voice in the room. President Nixon, who was waiting nervously in the next room, bought the idea immediately."

A few weeks later, he fired the first salvo when he said, in his State of the Union message, "Let's face it. Most Americans today are simply fed up with the government at all levels. They will not . . . and should not . . . continue to tolerate the gap between promise and performance." Everyone in Bebe Rebozo's basement smiled.

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away with the Department of Agriculture and a few other agencies and make and entirely new grouping. SCS would be split two ways and possibly three. Then funds for the Great Plains program, and all or part of the funds for several other programs would be given to the states. Most of us know full well that most of this money would be politically squandered in corrupt state and county offices. It was hard for me to believe that the Congress would buy any part of this. Yet governors, mayors, and local sheriffs were putting on enormous pressures.

February 5. The environment staff of the Department presumably will accept Johnson's paper on the MIT report without a big conference. I did a little work on the soil conservation paper I had promised a British magazine.

This was Dr. John Douglas' last day in the office prior to his move to Portland as assistant principal correlator.

Both Johnson and Smith were going to a meeting in Portland. Really only one was needed but both wanted to go. Johnson, partly to look after his property I suspect, and Smith to visit the Riverside laboratory.

February 6. Mommy and I worked very hard to clean up the upstairs following the departure of carpenters and painters. We moved the books from the attic into the upstairs library, put up curtain rods and so on.

February 7. We continued as yesterday replacing files, shelves, and the like.

February 8. In the morning I went to Group Health for an EKG and other tests and for an examination and visit with Dr. Rosenbaum. I returned to the office about 10:00. Grant was in quite a stew about the reorganization plans. He and several others and a great number of the state conservationists were spending the week in Chicago for the annual meeting of the National Association of Soil and Water Conservation District Supervisors. (Certainly

much of this money could have been put to better use.) And so I was Acting Administrator after he left about 2:00 p.m. This continued until about the same time Thursday, February 11.

Mommy settled with American Home Improvement Company and we paid for our home again.

February 9. Between many memos and letters for Grant's office and mine I wrote a bit on the soil conservation paper for Britain.

February 10 was about the same kind of busy day as the ninth with many conferences and heavy mail.

Morale was low throughout the Department. I was a bit amazed that Secretary Hardin made a speech at Chicago in full support of Nixon's reorganization plan and the so-called revenue sharing with the states and counties. I felt certain that he did not believe what he said at all. Someone told me that he was "acting as Judas' goat." What a pity!

February 11 I drove to the office. I was sent a perfectly absurd thick document prepared from a tape of a conference at Memphis, Tennessee some weeks earlier attended by Grant, Davey, Hollis Williams, the four field representatives, several of the plant scientists, and others. I called Robert Williams and urged him not to let this get out to any people who were not at the meeting because it would give such a very bad impression of the scholarship in the SCS. (Even though it might have been the correct one.)

During the day I had a great collection of relatively unimportant but irritating memos and conferences.

February 12. In the forenoon I had a long talk with Leo Anderson. I gave him a copy of Jurion's book in English. We talked about methods of technical assistance abroad; and the corruption in the national, state, and local governments of the US. Leo was about to take an assignment with the

World Bank to save what he could of a badly managed peanut project in Senegal.

The rest was the usual routine and work on the British paper.

February 13. (Saturday). In the forenoon I filled the cracks under door frames in study, one in bathroom, and some in front hall.

After lunch I wrote out a review for a detailed Belgian soil survey for the Soil Survey Manual. Not so good as I expected. (Randall and Stephanie were here for the long weekend while their folks took a holiday.)

February 14 (Sunday). I read a bit and reorganized some of our paintings in the living room. The Dykes came about 3:00 p.m. for dinner chez nous.

To bed early, very tired.

February 15. This was a partly wasted day. At 7:15 the house was very cold and we discovered we were out of fuel oil. We called the BP office and they promised to send oil. At 10:30 they called to say oil had been delivered February 5, which hadn't been done. They promised again to send a truck but did not so we called in the afternoon. Finally a truck came about 4:00 p.m. The driver was a sensible man and had been given word only about an hour earlier. Fortunately we had the fireplace and the gas range in the kitchen, and the weather warmed up a bit about noon.

Mary Alice and Bob came about 7:30 for the children.

February 16 in the morning I went to Harris and Ewing and picked up two photographs they had made of me earlier.

At 1:30 I had a long conference with several Indian officials and discussed with them the enormous importance of having most of the industrial sectors of agriculture located in the villages. Otherwise as their farming improved they would continue to have a parade of jobless people going to Calcutta, Bombay, and the other cities to starve. Of course one never knows

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but I think I got through to them. Neither AID, Rockefeller, or Ford have put nearly enough emphasis on this matter of jobs in the villages; and that such jobs will need to be in industrial and service sectors of agriculture. Most everyone assume that all of the people in the villages are cultivators, but they never have been. Many are leather workers, wagon makers, goldsmiths, spinners, weavers, dyers, and so on. These people and the redundant cultivators must have jobs. As the farming improves, the number of farm jobs go down and those in the industrial sectors of agriculture increase sharply.

I worked on a paper on soil conservation for a British magazine.

February 17. I drove the car pool to the office and spent most of the morning with Jack Towers making radio tapes. I wondered how many he would use. We talked about town-and-country planning; on the generally beneficial effects of farming on the environment; and on the role of animals, small animals (such as earthworms), and the microorganisms in soils and their place in the cycle of nutrients going into the plant and back to the soil again.

Most of the afternoon was in office routine and some writing.

February 18 I worked on the reference books for the Soil Survey Manual and a plan for the representation of the Service at cartographic conferences sponsored by DOD and NASA. (These require key clearance.) A bit more on the paper for the British.

February 19 at about 7:45 Mr. Shields and Dr. Matthews of the Maryland State office picked me up and we drove through Georgetown, Delaware to the Agricultural Experiment Station a bit southeast of Georgetown.

This was quite a ceremony for mapping the last acre to complete the soil survey of Delaware. The Lt. Governor was there along with representatives of the several departments of state government and several from the University of Delaware and local agencies. The local people had exposed a pit near the

station. Many cameras and movie cameras were supposed to have captured Dr. W.E.McDaniel, Dean of Agriculture and Director of the Station at Newark, and I put the symbol on the last acre.

Then we went inside for some more speeches, of which I gave one. I suppose about 12:45 we completed this and went to a nearby church for a luncheon. Here there were some more speeches including one by the Lt. Governor and others by local people.

On the way back we stopped for a while at the SCS office at Georgetown. We left there at 3:00 p.m. and I was home at 5:00 p.m.

Fortunately the weather was good and the affair went very nicely.

February 20. In the forenoon Mommy and I worked on federal and state income taxes for which she had already gathered the material.

In the afternoon I cleaned up a bit in the garden and removed the fence from the recent compost. Then we put up a new blind upstairs.

February 21. In the forenoon we cleaned up a great deal of the confusion in the basement, much of which had accumulated due to the the building work in January.

In the afternoon we called on the Austins. Morris had suffered a partial paralysis of his left side.

February 22. In the morning Mr. Harvey C. McCaleb of the W.H. Freeman Company (660 Market Street, San Francisco, California) called about my plans for a new book on agricultural development in the newly developing countries.

After lunch I had a long seminar with Orin Bailey and two other SCS people -- one an engineer and the other presumably with some training in economics -- who were going to start a two-year assignment in India. I emphasized contour terraces made by hand, consolidation of fragmented

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holdings, and town-and-country planning versus farm planning. I also discussed with them the importance of note taking and tried to explain something about the religions in the country and how to behave.

Between 6:00 and 8:15 in the evening I gave a lecture to a USLA graduate class on "Environment." This covered the principles of soil development and their responses to management. The questions from the students led to discussions of many applications and relationships to economic development and politics. Many wanted the whole story of the Aswan Dam.

Tuesday morning, February 23, Swanson and I, and part of the time Bathurst, had a detailed discussion with Coug⁽²⁾las Way of Harvard and one of his associates (Cinter?) about their "computer program" for planning in New York and using soil information. They were working with a man in Cornell named Belcher. He had been working on the making of maps "quickly" from air photos for many years. His claims have been outrageous and his products poor. These boys had been trying to get the "average" kind of soil in little squares of various sizes to use in the computer. They knew so little about soils that the results were, of course, absurd. (The Forest Service and SCS had been fooling around with this silly system called "MIADS". Swanson gave them a very good rundown on our coding system. Of course they wanted the results right away.

In the afternoon I did more on the Soil Survey Manual and attended to office routine.

February 24 I drove the car pool and had the usual routine with special memos on the needs of SCS for topographic maps and high-altitude air photographs.

February 25 we received a request from Kortain, SCS Field Representative at Portland, for an expensive meeting on this MIADS system in the Service.

February, 1971

I discussed this with Bathurst and pointed out its near uselessness to our work and failed to approve the conference. He said he would be going to Portland the following week and would discuss it with the field representative. It was so nearly useless and such a departure from our standard scheme for handling soil data that I had no time for it. Not one senior soil scientist with any training in the subject was scheduled to appear. Unhappily the regional technical centers had got some computers, which mostly they didn't need, and some programmers untrained in science. This meeting was a scheme to keep those people busy although it would do little good. (Memo attached.)

I had already warned Ken Grant about this but he was already so upset about Nixon's proposed reorganization that I hoped it could be taken care of without worrying him with it.

Later I worked quite a bit on the Soil Survey Manual.

February 26 I had a nice chat with Lloyd Partain. He is being driven nearly mad by these absurd requests for comments on absurd proposals from the Environmental Protection Agency and many others. He told me how the new Secretary of the Interior, Morton, had got the previous plans all changed around for his Department to have responsibility for land policy. Apparently the Secretary of Agriculture couldn't care less about anything now and had little or no influence. But somebody in the Congress certainly had a great sense of humor. They have put all of the appropriation bills for environmental agencies in the hands of Congressman Jamie Whitten who hates the very word "environmmnet." So a good time may be had by all. Apparently this fellow Morton was trying to gather a great deal of political support and money. Obviously ^{he} ~~had~~ had already demonstrated that he could not be trusted.

I sent over quite a few papers to a lady in ARS ^{Information} (C.L. Gaddis) who must write a speech for the incompetent Director of Research, Ned D. Bayley, in support of the President's (Nixon's) land-use policy, which nobody knows what is.

1245-a

February 25, 1971

SUBJECT: Attached SCS-72 for workshop on HIRDS

TO: Verne H. Bathurst
Director, Management Division

We received the attached and noted on 2/24/71 on "The Hierarchy of coding soils and other map data" to be discussed by people not known to me as having any training or experience in our system for coding soils.

I checked with Mr. Gurnea and it seems that HIRDS is the same thing we looked into and rejected for taking the most prominent soil in a square of four acres up to larger units. This is not an accurate way to present soil information so far as we have been able to determine. I believe this is the unsatisfactory attempt that was explained to us by the gentlemen from Harvard the other day.

We suggest that you look into this. From all I can gather, it is not going to be worth the candle. Certainly I do not want our people to become "expert" in a system that we cannot use.

It should be noted that none of our senior staff in soils is to take part, not even from the Portland RTSC.

Charles E. Kellogg
Deputy Administrator
for Soil Survey



cc:
Steven J. Kortan, WRISC
SCS, Portland, Oregon
William M. Johnson
Dwight W. Swanson
A. Clifford Orvedal

CEKellogg:pas

February, 1971

I also heard another funny story. Secretary Hardin had told his boys in Information to plan a 1972 Yearbook on something like "Gardens in town and country." At the first meeting to discuss this it was explained that the American Horticultural Society already had firm plans for just such a book and had already received huge grants for it. Yet things in the Department were in such a mess that the Director of Information had just decided to retire and would not do anything about it. So the problem was will anybody have the courage to help the Secretary keep from this foolish venture?

At noon several of us went to a retirement luncheon for Chet Francis, Director of Engineering. It was too far away, much too costly, and took too much time.

In the evening Mary Alice, Bob, and the children had dinner with us to celebrate her birthday the coming Sunday.

February 27 Mommy and I worked in the house replacing some of the door fixtures upstairs and put down a new stair carpet. Later I cleaned up a bit in the garden.

February 28 Mommy and I worked on this C.V. and I did a bit of studying and reading.

March 1 we were up early so that I could be packed for a trip to Cornell University in the evening.

Lots of routine at the office. Klingebiel came in to tell me that he planned to retire in calendar year 1972. This will make it a bit difficult for Bill Johnson.

Because of the danger of heavy traffic I left the office about 4:00 p.m. for the airport. I stepped immediately into a cab and was at National Airport checking in around 4:30. I looked over some of the books and read.

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I boarded the plane for Syracuse at 5:48 and we left about 6:00 p.m.

With the help of the stewardess on the plane I met Miss Mary Purchase who Drosdoff told me would drive me to Ithaca.

This was a poor ride. The seats were very close and nearly all taken. Unless one ordered liquor he didn't get a "snack" and I objected. So they brought me hot tea and a few little baked balls of dough.

We reached Syracuse airport about 7:10. Miss Purchase and I had a very light snack. She got her car out of the lot and we went to Ithaca. I arrived at the Statler Inn around 9:00. Drosdoff and Jurion were there to meet me but all the food facilities were closed so I went to bed a bit hungry.

March 2. I was up about 5:30 to read. Breakfast could not be had until 7:30. I made some notes then Jurion and I walked over to the "Agronomy Tower." I am afraid I would get claustrophobia in that building. It has eleven floors and very few outside windows. Offices and laboratories are scattered around most floors.

I had long talks with Jurion and others. We went back to the Inn for lunch with Dr. M. J. Wright, Head of the department, Director Turk and several others. Wright was an agronomist, not a soil scientist. He seemed like a nice fellow but not a heavy weight.

From about 2:00 p.m. to 4:00 p.m. I gave a lecture to the Soil Science Institute -- mostly SCS boys along with many graduate students and faculty from the department. I tried to outline as best I could what I expected would be demanded of the Soil Survey in the years ahead both here and abroad with special emphasis on making interpretations more quantitative and close association with engineers and economists. I explained the identity of "kind of soil" and "ecosystem."

I pointed out why well conducted farming improved the environment

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and I explained the nature of agriculture, the basic concepts of town-and-country planning, and the need for about 600 to 700 new cities in the US, and the vital role of soil science in this work. We had a very good question period.

After chats with some of the men and staff Jurion and I went back to the Inn and had dinner with Dr. and Mrs. Drosdoff. It was cold and snowy and I refused an invitation to a concert -- but it was cancelled anyway.

I was very tired indeed that night.

March 3. The morning was a bit cold and snowy. Jurion and I went to the building immediately after breakfast. Beginning at 9:00 I lectured for about an hour to those taking their first course in soil science. There were about 120 plus staff members. I was amazed to see the high proportion of hippies and girls.

I talked to them on the concept of soil and how to make predictions about their responses to management for farming and forestry and their responses to manipulation in engineering. To them I talked a bit about the nature of agriculture, town-and-country planning, and how the world food problem could be handled. I also slipped in something about education and explained why they would not get that in a university. So that in the university they ^hould concentrate on the principles of scholarship, science, mathematics, and language. If they do get an education it will come much after the Ph.D. We had a very good question period. But I confused those in the back as to whether they were Miss or Mister.

At a little after 11:00 I lectured to the first class on soil classification. Here again I went over the nature of soil and a rather elementary outline of the history and development of soil classification here and abroad. with emphasis on the cooperative nature of the work within countries and between countries. I emphasized the great need ~~for~~ for knowledge in the

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earth sciences and biology as well as chemistry and physics. I especially emphasized the need for reading ability in French and the need to travel widely.

Between 12:20 and 1:10 I gave a lecture on tropical soils.

After a late lunch at the Inn I went back for conferences with Drs. Arnold and Olson.

In the evening a boy came from Alpha Gamma Rho and Jurion and I had dinner at the fraternity. I was greatly impressed with the excellent manners and deportment of these young men. Then they returned us to the building for a two-hour seminar led mainly by M. Floribert Jurion and we had a very good general discussion following his movie on INEAC.

We went back to the Inn in a terrible snow storm.

March 4. I was up early and went over my notes for the day's lectures. Jurion and I walked to the building in a full-scale blizzard. Matt couldn't get his car out.

From about 10:00 to 12:00 I lectured to a large group of advanced students and boys attending the Institute on the history back of and in soil classification and surveys beginning with Columella and ending with our work with ADP, and on the new Soil Survey Manual.

Actually the university was officially closed so we had only the really interested students and staff.

Back at the Inn I had lunch with Nyle Brady and David Knapp. We did have a lot of fun. Following this I had a conference at the Inn with the librarian and others about my collection. Then we went back to the building through the blizzard for individual conferences.

In the evening we were supposed to go to see a play -- Ibsen's The wild duck -- but it was cancelled.

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Friday, March 5 about 8:00 a.m. Kubota came for me and I went out to the US Plant, Soil, and Nutrition Laboratory. At their request I had planned to give them a speech on the background of this laboratory but very few were there except for a few girls to feed the rats and a man to shovel the snow.

Dr. Kubota took me to the Olin Library for more talks with the librarian -- Dr. David Kaser -- about my scientific book collection. The day was bright and sunny but the huge snowdrifts were still there.

When I gave my name to the receptionist a young man presented himself, who turned out to be the assistant director of the library. His name was Hendrick Edelman, son of my dear friend and colleague C. H. Edelman! So Dr. Kaser brought him into the conference. I explained that the young man's father was the greatest teacher of soil science in the world. The young man said, "The feeling was entirely mutual." Later I insisted that the soil scientists at Cornell get him over for a lecture about his father.

I looked at the rare books section and was disappointed in their very poor shelf on agriculture in the history of science -- nothing really good. The person in charge of the manuscript section and the assistant were both snowed in. I was, however, very pleased with their security arrangements and about decided to change my will not to require that all the books stay together.

After the library, I went back to the Inn for lunch. Wright was to take me to Syracuse but was told that the airport was closed and all flights cancelled and all the future flights for a couple of days booked up. Both the roads to, and the airports, were closed at Rochester and Elmira. The only prospect was a 110-mile trip to Buffalo.

Just about then Dr. W. K. Kennedy, the Vice-Provost of the University came in and heard this. With him was a young man named Vaughn who was driving to Arlington, Virginia within a few minutes and asked me to accompany him. I finished packing and checked out.

March, 1951

We left in his car at 1:20 p.m. and I arrived home at 9:15 p.m.

Drosdoff had promised to call my office but had apparently forgotten it. I tried to call Mommy from York but could not reach her. My companion reached his wife and asked her to call my home in about an hour.

That was a very tiring day. I was told when we left Ithaca that I had seen the worst blizzard ever recorded there.

March 6, Saturday. Mommy and I worked on this c.v. I did a few chores and read.

March 7. I did a few chores, read, and brought our family photograph album to date.

Monday, March 8 I discovered that the previous week Joe Robertson had left the USDA and moved to the Civil Service Commission to direct a program of exchanges between universities and government. Otherwise mostly routine.

March 9 I handled the routine and did a little writing. Ken grant was away at this critical time apparently to build up his political fences.

March 10. Routine and worked on Soil Survey Manual where there were many sticky problems. I wrote a little script on garden mulches.

March 11. This was a very busy day with memos and conferences. I went over the British paper on soil conservation with Mrs. Colton. I had asked the directors for suggestions on books for the Soil Survey Manual reference list. I had a memo from Simonson giving a whole list, including his own unoriginal papers, which was absurd.

March 12. Again routine and many memos. A great deal of scandalous politics between the White House and the Congress came to light.

March 13 (Saturday). I about finished the British paper, worked in the garden for three hours and read. Dinner chez Cline.

March 14. A bit in the garden but mostly reading.

March 15. Considerable routine. An investigator named Hartley of the Civil Service Commission talked with me for about two hours about Bill Johnson. In the afternoon he talked with several of the others. That evening I called Carol and told her that things looked hopeful.

March 16. In the morning I worked on a request from FAO for guidance on a paper dealing with soil conservation to be given in Sweden the summer of 1972.

I went to Group Health for a shot in my shoulder.

I dealt with a large bulk of letters and memos. In the evening Mommy took me to the NBC station to put on a TV short on garden mulches.

March 17. In the morning I worked on the FAO request and routine. After lunch I went to Hyattsville for the monthly scheduling conference.

March 18. Conferences and routine.

March 19. Considerable routine, FAO paper on soil conservation, and conferences with Clyde Graham and other state conservationists. (Each year about this time, over a period of four to five weeks, the state conservationists are authorized to come to Washington. Then they call on each senator and congressman from their state with whom they can get appointments.)

All of us were terribly disappointed with the wisny-washy statement of Secretary Hardin in support of Nixon's reorganization plan that would do away with the USDA. The plan was ridiculous and outrageous. Hardin should have said so and resigned.

March 20. In the morning I worked a bit in the garden and about noon Mommy drove me to National Airport where we met M. Jurion and brought him home. We had an afternoon and evening of nearly uninterrupted conversation,

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especially about agricultural and economic development.

Sunday, March 21 Jurion and I continued our conversations for much of the day while Mommy worked hard preparing a dinner for us and for Dr. and Mrs. Ralph Phillips and Mr. and Mrs. Roger Coustry.

March 22. Jurion went to the office with me and talked with members of the staff. We had an early lunch with Phillips and others and he took a cab to the city air station. It was certainly wonderful having him here.

March 23. Mostly routine correspondence, memos, and conferences. I noted that the Cooperative State Research Service sent to all of the state experiment stations the ridiculous proposals of the White House on revenue sharing -- that is turning over the federal funds for extension, Great Plains, and the like to the state governors -- and the reorganization plan.

From about 2:00 to 4:00 p.m. I talked with Dr. P.G. Skerman of Queensland in Australia. Although trained mainly in animal science and biology he had worked in several countries as an FAO advisor. After a bit it was clear that he shared my very low opinion of the Soil Survey work in Australia. We had a pleasant and very interesting wide-ranging conference on several key problems in agricultural development and many technical problems.

March 24. I had a morning of routine paper work and conferences and after lunch we went to the hearings on our part of the USDA appropriation.

Jamie Whitten started out with a long speech on the origin of soil and water conservation work with special reference to watersheds. He was extremely critical of the low budget and the inevitable delays in needed work that would result. He talked about all phases of the program.

Then the questioning went to the other members of the committee. The whole thing was a game. They asked us questions in order to make statements of their extreme opposition to the cuts. It was obvious that Dorny would

have an enormous job to answer all of the inquiries for the record, including all reductions in personnel for the past five years, by reason of lack of money or personnel ceiling, and where the cuts were made -- by the Congress, by the Service, by the Secretary of Agriculture, or by the Office of Management and Budget.

The thing went on from 1:00 until 5:00 p.m. with two interruptions, one for a committee photograph and the other for a record vote in the chamber. Curiously the Republican members of this subcommittee on appropriations were even more critical and more violent in their language than the Democrats.

The committee kept this show going so long that it cost me \$4.50 for a taxi home. But the show was worth it.

March 25. Leo Anderson spent most of the forenoon with me. He had decided to go as a kind of consultant with the World Bank and maintain his home in Fargo. We had considerable conversation about soil conservation in the US and economic development abroad. He brought me a beautiful specimen of an early human ax head said to be at least 30,000 years old and possibly as old as 1,750,000 years.

After lunch I finished the routine and we had the retirement party for Louis Derr and his wife between 3:30 and 4:30. One always has a tug when such an able and pleasant man retires.

March 26. I worked some more on soil conservation material for FAO and handled a great deal of correspondence.

Ray Heinen told me that the Speaker of the House, Carl Albert, had assured several people that there was no hope at all that Congress would agree to Nixon's reorganization plan, revenue sharing proposal, or the extremely vicious proposal to put all GS-16,17, and 18 civil service positions on

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one-year contracts. This last proposal would have put an end to all serious scholarly work in the social and natural sciences in the federal government.

March 27. Mommy and I worked on this c.v. I read a book edited by Earl Heady on rural development. It was a poor one and I prepared a review.

March 28. I read much of the day. Between about 5:00 and 9:00 p.m. the Dykes were here and had dinner chez nous.

March 29. This was a very busy day with a variety of routine conferences and correspondence.

March 30. I had a brief talk with Carl Lyndstrom. The USDA Personnel Office keep telling him they expect Bill's papers any day. (But they don't say what year.)

In the morning Paul Lemmon called for an appointment. Just after he came into my office, Darnell Whitt called so I told my secretary I would call back.

Paul snowed me a memo sent to him by Whitt, ordering him to move to Lincoln, Nebraska, to work on shelter belt data! Paul was close to retirement, had his home here. We have been working with him on his forest site data, which relates specifically to our pedon file in ADP. The whole business looks stupid and unfair.

During the day I talked with Van Dersal and a little with Bathurst about this. Clifford Orvedal was rather upset. Paul is eligible for retirement and we had planned to work with him on getting these data ready for the computer. Of course, we need to study with Paul just what will be expected from the computer.

Near the end of the day I talked briefly with Whitt about it on the phone. The move makes no sense at all.

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With the new regulations if Paul gave up his home the move would cost the Service between \$4,000 and \$6,000. My concern and Paul's is more on the fact that probably his life's work would be essentially lost. The forester here was quite innocent of any knowledge about Paul's work. I became persuaded that the whole thing was personal. Whitt had been frustrated about his own status and it may be he was relieving himself by this crack at Paul Lemmon.

March 31. In the morning I worked with our Information people on suggestions for telling the whole story of agriculture. Probably they will not be permitted to do it, but we shall see. Nixon has an idea now of having a big "salute to agriculture" on the White House lawn. Of course, he means simply farming.

I also read in the issue for March 20 in CPR National Journal of in-fighting over planned policy. Between the lines it shows clearly dishonesty, corruption, and loss of purpose in this Administration. (Copy attached of the main part)

At the request of one of the officers of OPEDA (Organization of Professional Employees of the Department of Agriculture) I prepared two statements: (1) On the calamitous effect of Nixon's proposed "one-year contract plan" for all employees in Grades 16, 17, and 18, which would deprive the government of serious qualified scholars in both the social and natural sciences; (2) the serious results that would follow from abolishing the US Department of Agriculture, together with why such a foolish idea arose. (Copies attached)

April 1. I had a very busy morning with some FAO materials, with the scholarship request from a soil scientist on the staff of the American University of Beirut, and specific plans for speeding up the reconnaissance

Environment Report/Interior Department finesses HUD in scramble over land use program

72 56 Q

by Richard Corrigan

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Interior Secretary Rogers C. B. Morton has won the lead role in the Nixon Administration's proposed land use program.

Sen. Henry M. Jackson, D-Wash., and Rep. Wayne N. Aspinall, D-Colo., chairmen of the Senate and House Interior and Insular Affairs Committees, won early congressional skirmishes for authority in the matter.

But the ultimate direction of the program is yet to be charted, and jurisdictional fences are still shaky.

Developments: These developments have resulted from early maneuvering:

- Morton, in a last-minute power play, took the key role from HUD Secretary George W. Romney. The Council on Environmental Quality had drafted a bill giving Romney's department primacy. But, at a meeting between the two secretaries and CEQ Chairman Russell E. Train six days before delivery of the President's Feb. 8 environmental message to Congress, Morton insisted on a reversal of roles, and he prevailed.

- "It was agreed between Secretary Romney and myself that Interior should be the lead agency," Morton told *National Journal*. He emphasized that the two departments would work together, and added, "Somebody has got to be chairman of the board."

- In the Senate, a tenuous truce has been arranged involving four committees claiming interest in the land bill. After a conference at the office of Commerce Committee Chairman Warren G. Magnuson, D-Wash., a memorandum was written giving Jackson first crack at the legislation.

- In the House, Aspinall assured his jurisdictional control by introducing a bill sooner than any of his potential competitors from other committees. Aspinall used a discarded CEQ draft rewritten by his committee staff so that the Interior Department would run the program—as his vehicle. (Aspinall held no hearings on similar bills sent to his committee in 1970—one of them sponsored by then-Rep. Morton—while Jackson was trying unsuccessfully to push his own bill through the Senate.)

Controversy: What are they fighting over?

The Administration bill (S-992, HR 4332) is a modest proposal, shorn of tough penalty provisions just before introduction. It can be read as little more than another categorical grant, at a five-year, \$20-million-a-year level,

to finance state planning and management programs. This authorization would mean an average grant of \$400,000 a year per state.

Yet, the subject of land use control is intrinsically controversial, and any measure that could change the current institutional framework by injecting a state and federal overview on local land use decisions is bound to rile county and municipal authorities.

Industrial and commercial interests also have indicated concern over any national land use policy legislation. Their present and future property investments could be affected if, for example, the legislation results in prohibitions against development in certain coastal regions.

In terms of Administration policies, Morton's imprint on the final legislative proposal signals a resurgence of Interior's influence, which had waned during the term of his predecessor, Walter J. Hickel. The HUD Department, already involved in new communities programs and a variety of metropolitan-area planning and programming functions, had campaigned heavily for the lead role on land policy, but had to settle for a secondary position and will have no power to use penalties as a means of furthering its land use objectives.

Purpose: The main objective of the Administration's bill is to limit the zoning powers of local governments.

President Nixon, in his Feb. 8 mes-



A diversity of land uses: photographic montage of Pittsburgh (background) and Lancaster County, Pa.

sage to Congress on the environment, explained the purpose of the national land use policy legislation this way: "While most land use decisions will continue to be made at the local level, we must draw upon the basic authority of state government to deal with land use issues that spill over local jurisdictional boundaries. The states are uniquely qualified to effect the institutional reform that is so badly needed, for they are closer to the local problems than is the federal government and yet removed enough from local tax and other pressures to represent the broader regional interests of the public."

A confidential CEQ memorandum dated Oct. 29 gave this explanation: "Land use policy is a start at institution building, and is designed to cause states to develop their own programs without much substantive federal direction."

"It's a dark door for everybody," John C. Whitaker, chief White House aide on environmental issues, said in an interview.

"Does the federal government decide which corner the gas station goes on?" Whitaker asked. Obviously not, he said. On the other hand, he said, "there never would have been a Florida jetport fiasco if there had been a Florida land use law." (*For a report on the Everglades jetport controversy, see Vol. 2, No. 4, p. 174.*)

"The main principle is that a hunk of land is too large in some cases for a local jurisdiction to control by itself," he said. "We hope the institution (of a state land use planning office) will develop, and that out of that we will develop a state law."

"If we get a (federal) law," he said, "it will be a great step" toward preserving and restoring the environment.

Administration proposal

The Administration committed itself in 1970 to the introduction of a land policy proposal. Testifying on April 28 for the Administration on the Jackson bill (S 3354), CEQ Chairman Train told the Senate Interior Committee he could not enunciate a position at the time but indicated White House legislation would be developed "in due course."

In its environment report last August, the CEQ devoted a 32-page chapter to the subject. President Nixon, in an introductory statement to the report, said:

"The time has come when we must

accept the idea that none of us has a right to abuse the land, and that on the contrary society as a whole has a legitimate interest in proper land use....

"I believe we must work toward development of a national land use policy to be carried out by an effective partnership of federal, state and local governments together, and, where appropriate, with new regional institutional arrangements."

Task force: An interdepartmental task



Rogers C. B. Morton

force was formed in late summer under CEQ's direction to prepare the policy. It operated under a steering committee that put together the 1971 environmental package.

The task force chairman was Boyd Gibbons III, the council's executive secretary, who served as deputy under secretary in the Interior Department in 1969, when Train was the department's under secretary. Gibbons, 33, a University of Arizona law graduate, was previously a legislative assistant to Sen. Paul J. Fannin, R-Ariz., specializing in Interior Department matters, and was an advance man for Mr. Nixon's 1968 campaign.

Staff—Among the CEQ staff members working with Gibbons was William K. Reilly, 30, a Harvard Law School graduate with an urban planning degree from Columbia University. His master's thesis dealt with the New York State Urban Development Corp. Reilly was with Urban America and the Urban Coalition before joining CEQ last April.

The HUD Department was angling for a lead role in the new program from the start. As an example of the high priority that the department at-

tached to the subject, Charles J. Orlebeke, the deputy under secretary, was its representative on the task force. Orlebeke, 36, a former Fulbright scholar with a doctoral degree in political science, has been a top aide to Romney in Lansing and in Washington since the 1962 Michigan gubernatorial campaign.

Other departments assigned lower-ranking staff specialists. Interior was represented by Temple Reynolds of the Office of Policy Planning and Re-



George W. Romney

search, since assigned to Lake Mead National Recreation Area at Boulder City, Nev., and by Willard M. Spaulding Jr., a career employee trained in biology—and former summer guide for muskie and trout fisherman in Wisconsin—who joined the Bureau of Sports Fisheries and Wildlife in 1964 and was assigned to the policy office in late 1969.

Representatives from the Agriculture, Transportation and Commerce Departments and the Office of Management and Budget also regularly attended.

Procedure—The task force met throughout the fall, usually at a CEQ conference room and on occasion in John Whitaker's spacious corner office in the Executive Office Building. Whitaker kept an eye on developments throughout the deliberations and was regularly briefed by Train on the status of the environmental package.

The task force first outlined possible methods for dealing with land use problems, and attended sessions on specific federal programs such as water and sewer grants and housing assistance funds.

Robert D. Lunt, an analyst from the Agriculture Department's planning staff who served on the task force, said:

"When they started their review, they were looking for ways that the federal government could control land use. It quickly became apparent that this would not be very effective, that you had to work with the states."

The task force studied land use innovations employed by a few states and localities, talked with some consultants and state officials and exchanged large and small ideas.

(Spaulding, after a weekend dispute with a bicycle salesman, suggested a special use tax on bicycles to help finance park development. "This is how some of these things go sometimes," he said.)

Reilly, speaking of the question of how much action could be expected from the states, said, "We did not want to ask the states to plan or zone for their entire areas. We just thought that this was impossible."

The task force then focused attention on areas where state action was deemed necessary: on areas of "critical environmental concern" such as coastal wetlands threatened by development; on major new public facilities such as highway interchanges and airports that would inevitably result in new private construction; and on metropolitan needs, such as low-cost housing, that have not been met because of local exclusionary zoning.

Coastal zone program—During the task force's study, it was decided to expand the Administration's 1970 legislative proposal for a coastal zone management program, which was to be operated by the Interior Department, and supplant it with a more broadly-based program.

The coastal zone program, suggested by, among other sources, a Johnson Administration Marine Science, Resources and Engineering Commission in 1969, would be designed to assist state and local governments in protecting shorelines, estuaries and Great Lakes areas from uncontrolled development. (For a report on the coastal zone plan, see Vol. 1, No. 9, p. 441.)

Agreement—Reilly said the bill's general outline was agreed upon quickly. "The kinds of questions that got the most attention were the penalties and the administration of the program," he said.

Interior's position: HUD's chances of gaining control of the new land program were not impaired by the strained relations during 1970 between the White House and Hickel, who was fired by President Nixon on Nov. 25.

"Nobody in the White House or in the CEQ wanted to give the program to Hickel," said a Senate Interior Committee staff member, who has followed the issue closely.

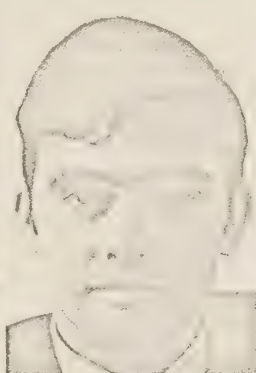
Shrunkened jurisdiction—During

rather than an interagency council should operate the program. "We believe that the considerable experience of the Department of the Interior in the area of land and resource-use planning makes it one of the agencies that should be considered for the development and the carrying out of a program of the type proposed by this bill," he said.

(Jackson's bill would expand the inter-agency Water Resources Council into a Land and Water Resources



John C. Whitaker



William K. Reilly



Boyd Gibbons III

Hickel's tenure, his department lost its Federal Water Pollution Control Administration to the new Environmental Protection Agency and its oceanographic programs to the Commerce Department's new National Oceanic and Atmospheric Administration.

Not until after Hickel's ouster did the White House publicly endorse the months-old recommendation of the President's Advisory Council on Executive Organization that Interior be expanded into a new Department of Natural Resources. Hickel had publicly advocated this expansion.

The CEQ staff tried to brief Hickel on its draft land use bill, a staff member said, but before a meeting could be scheduled he had been dismissed. The staff did brief John R. Quarles Jr., a former aide to Train, who at the time headed the department's policy office and since has been named an assistant administrator of the Environmental Protection Agency.

Control sought—The department's interest in controlling a land use program was made evident in a July 16 letter to Jackson from Harrison Loesch, assistant secretary for public lands.

After describing numerous departmental activities that relate to land use, Loesch said a single department

Council to be chaired by the Vice President.)

HUD's views: Romney wrote Jackson Aug. 17 in response to questions sent by the Senator to agencies that would be affected by his bill.

Romney said the purposes of the bill could be accomplished in large part through HUD's existing 701 planning program, which has been channeling \$50 million a year to local, regional and state governments for comprehensive planning activities. He foresaw "very substantial overlap or duplication."

The 701 program was established by section 701 of the Housing Act of 1954 (40 USC 461).

Over-all policy—Romney also made clear that he believed a land use policy should reflect much more than a concern over environmental factors.

"This department," he said, "is committed to viewing land use planning within a broad context of social, economic and resource requirements and considers that the planning it supports must be sensitive to the impact of land use patterns upon housing choices, including housing choices for lower income and minority families, upon job opportunities...upon the whole social fabric of an urban and urbanizing America."

During this period, HUD officials

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were coordinating policies and programs with the goal of helping inner-city residents—particularly ghetto blacks—find low-cost, private housing in the suburbs. This high-priority “open communities” policy, which was never formally proclaimed, failed to gain White House approval. (For a report on “open communities” policy, see Vol. 2, No. 42, p. 2251.)

Skepticism—Meanwhile, some urbanologists said they fear that if HUD invested too much energy in suburban environmental concerns, inner-city problems would suffer neglect.

As Robert Wood, president of the University of Massachusetts and former under secretary of the department wrote in the November 1970 issue of the *Journal of the American Institute of Planners*:

“So far as national priorities is concerned, there is a disturbing tendency to replace national goals rather than fulfill them. Specifically, there is the inclination in 1970 to shift emphasis from the priorities of urban development...and to focus instead on a new area, the natural environment. This unhappy trait fringes on environmental escapism.”

Draft legislation: By late October, the task force had outlined the essentials of the program—with HUD placed in charge.

A confidential CEQ memorandum, dated Oct. 29, said in explanation of a draft bill:

“HUD should administer the program, including the certification of the states’ programs, according to guidelines to be promulgated by the President. Interior should be responsible for certifying to HUD the adequacy of that portion of the states’ programs dealing with areas of critical environmental concern.

“Of all federal agencies,” the unsigned memorandum said, “HUD has the most expertise at dealing with land development and planning issues. Many of the areas involved will be urban in character. More and more, conservation issues are development issues, since the question invariably becomes how to regulate, control and direct development.”

The memorandum said that, on the minus side, the HUD department “is currently oriented more toward development, i.e. housing production, than toward conservation goals” and has only “limited support” from conservationists in Congress and throughout the nation.

President's Property Review Board:

The Nixon Administration, which is asking for a better system of land use controls across the country, has its own VIP board of appeals to settle planning and zoning conflicts within the federal bureaucracy.

Like a typical county commission, the Administration panel deals with such questions as whether private property should be taken over for use as public parks.

And, like a typical county commission, the Administration panel has found that property owners do not quickly and voluntarily relinquish rights to their holdings.

This panel meets, not in some musty county courthouse, but in the Roosevelt Room of the White House. The proud landowner whose property is at stake is not a hometown merchant, but a government institution—the Defense Department, for example.

And the landholders are represented, not by typical courthouse lawyers, but by high-ranking personages, such as Adm. Thomas H. Moorer, chairman of the Joint Chiefs of Staff, and, at one luncheon gathering, Defense Secretary Melvin R. Laird.

The panel is called the White House Property Review Board.

Pendleton beach: One case in which President Nixon has often expressed a personal interest involves a scenic, 17-mile stretch of Pacific coastline at Camp Pendleton, Calif., close to the Western White House at San Clemente. It remains a Marine Corps beachhead, despite board efforts to free part of it for use as a public beach.

In his Feb. 10, 1970, message to Congress on the environment, Mr. Nixon said: “Last month, the Defense Department arranged to make more than a mile of that beach available to the state of California for use as a state park.”

But, more than a year later, the arrangement has not been consummated. Lt. Col. E. W. Schultze, public affairs officer at Pendleton, said in response to a telephone query: “We’re finalizing an agreement for the state to get 3.45 miles of coastline.”

At present, Schultze said, bathers are not allowed on the beach; fishing is permitted upon approval of written applications for permits.

Darrell M. Trent, executive secretary of the White House Property Review Board, said negotiations have been in progress for months between the board and the Marine Corps. At one meeting the Corps was represented by Gen. Leonard F. Chapman Jr., the commandant.

“The Marine Corps had an idea how much they wanted to give, and for how long,” said Trent, who is also deputy director of the Office of Emergency Preparedness.

He said the Marine Corps thought a mile was proper, but the state wanted more.

The Marines have been using portions of the beachfront for amphibious landings and other training exercises. Some portions are used rarely, Trent said.

Although the board’s recommendations to the President are confidential, Trent indicated that the 3.45-mile figure “ties into” a board proposal.

In his Feb. 8, 1971, message to Congress on the environment, Mr. Nixon again talked about Camp Pendleton.

“Efforts are under way to open a significant stretch of Pacific Ocean beach front and coastal bluffs at Camp Pendleton,” Mr. Nixon said.

In an early draft of the message, Pendleton was to be identified as a case in which agreement had been reached. The draft was later revised.

The assignment: The review board, whose members include John D. Ehrlichman, assistant to the President for domestic affairs, was established on Feb. 10, 1970 (ExecOrder 11508). Its priority assignment has been to pry surplus land loose from federal agencies.

Mr. Nixon, in his 1970 environment message, ordered all federal agencies to review their property holdings and to decide what holdings could be put to better use. He also ordered the General Services Administration to survey all federal properties and make its own recommendations.

Prying Loose Surplus Federal Land

"Special emphasis will be placed on identifying properties that could appropriately be converted to parks and recreation areas," the President said. "I am establishing a Property Review Board to review the GSA reports and recommend to me what properties should be converted or sold."

John C. Whitaker, the White House aide for environmental matters, said the board was established to give White House "clout" to the property review process. "That's the only way you cut through the bureaucracies," Whitaker said. But, he said, the system has produced frustrations.

Board actions: The board members are Arnold R. Weber, associate director of the Office of Management and Budget, chairman; Donald Rumsfeld, counselor to the President; Ehrlichman; Russell E. Train, chairman of the Council on Environmental Quality; Robert L. Kunzig, GSA administrator; and Paul W. McCracken, chairman of the Council of Economic Advisers. A lower-ranking alternate is rarely sent if a member cannot attend.

The board has held nine formal meetings thus far. Meanwhile, inventories and reviews have been under way on federal holdings. Trent said the Defense Department, the biggest federal landowner, holds 1.6 million acres in urban areas alone.

The first results of the board's efforts were reflected in the 1971 environmental message. Mr. Nixon said then that five properties are being made available at no cost for public park use: 1,033 acres at Fort Hancock, N.J., including 10 miles of Atlantic beach; 426 acres at Fort Lawton in Seattle, Wash., including two miles of beach; all 372 acres at Border Field in San Diego, Calif.; 210 acres at the National Institute for Mental Health Clinical Research Center at Fort Worth, Tex.; and 128 acres at a former Navy training center at Port Washington, N.Y. These are the first transfers under the program; nearly 50 other parcels are being reviewed, and further transfers are expected later this year.

Sen. Henry M. Jackson, D-Wash., chairman of the Senate Interior Committee and sponsor of several bills designed to facilitate public ownership or access to property held by the government, has quoted statistics showing that military installations take up 581 miles of the nation's shoreline. By comparison, 1,209 miles of beachfront are dedicated to public recreation.

Trent said a number of possible park locations—including Pendleton—have been suggested by President Nixon, often in the form of notes sent over by Ehrlichman or H. R. Haldeman, assistant to the President and White House chief of staff.

Trent said of the board meetings, "It isn't like a court. You don't go in and come out with a verdict on whether a particular property will be retained or not retained."

He said the board simply acts as an observer for the President and that "all of the departments and agencies are part of the team."

Trent said: "The thing that's amazed me most is how long these things can drag out."

Trent, a former aide to Presidential Assistant Peter M. Flanagan, helped draft the 1970 environmental package that recommended formation of the board.

As part of its review process, Trent said, the board has been compiling its own systematic inventory of federal properties.

Pentagon policy: Barry J. Shillito, assistant secretary of defense for installations and logistics, said of the Pentagon's policy toward the property review process: "We want to comply and are going to comply in every way with the environment message, naturally. We're looking at virtually every installation we've got."

Shillito said of Camp Pendleton, "there will undoubtedly be some give and take" over how much beachfront will be made available. But he said he hoped the matter would be resolved "damn soon."

However, the memorandum continued, the department has the most extensive experience in urban affairs generally and in planning in particular—through the 701 program—and "could possibly win the support of homebuilders, an effective lobby group," for the Administration's bill. (*For a profile of the National Association of Home Builders, see No. 9, p. 431.*)

The draft bill also called for strong penalties for states that did not produce satisfactory methods for controlling development. Federal funds to these states for airport and highway construction could be cut at the rate of 7 per cent a year, beginning in 1975, and by 7 per cent in succeeding years, up to a maximum of 35 per cent.

The memorandum said the penalties were crucial to the program's success. A state governmental move to preempt land control from local governments would be "a major political decision," the memorandum said, and "it will require more than a new grant to assure its implementation."

Morton's role: Morton, then Republican National Committee chairman and U.S. Representative from Maryland's Eastern Shore, testified before Jackson's committee March 24, 1970, in support of the Senator's bill.

Speaking of the need for a federal initiative on the subject of land use, Morton said: "I think we can give lip service to this until the cow gives beer, and I do not think we will do it unless we really motivate the states to come up with a set of standards for all kinds of areas, the high-density areas, the undeveloped areas, the areas that are set aside purely for conservation."

Morton, a former member of the House Interior and Insular Affairs Committee, agreed with Jackson that "the orderly zoning of land is at the heart of our environmental challenge today," and said urban areas posed the greatest problems.

"Sure, we can lay out blueprints for our great state of Alaska," he said, "...but that is not going to affect the quality of life of the people in Baltimore, and Philadelphia, and Newark, and Washington....We have got to spend our money...where the people are" and "put in a concept, a whole new concept, of land use in the high-density areas of the East, and of the big-city areas of the whole country."

Nomination announced—President Nixon on Nov. 25 announced his in-

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attention to nominate Morton for Secretary of the Interior. By this time, the CEQ task force already had vested HUD with primary responsibility. But Morton moved to counteract this decision.

On Jan. 19, before he had taken office, Morton attended a meeting at the New Executive Office Building called by the Office of Management and Budget to hear the responses of other agencies to the land use bill.

After Train outlined the bill's provisions, acting Secretary of Interior Fred J. Russell gave the department's view. Russell, according to sources who attended the meeting, suggested that an expanded Water Resources Council might be the best mechanism to operate the program, and did not make a strong case for the program or for his department's qualifications to handle it.

(An Interior Department official said, on a not-for-quotation basis, that Russell suggested this approach only as a fall-back position; the feeling at Interior, he indicated, was that if it could not run the program, at least HUD could be prevented from taking it over, and Interior could then overpower the Water Resources Council.)

Morton arguments—Then Morton spoke up. In what one observer described as a dramatic and impressive speech, Morton "overrode some of the things that Russell was talking about in a very nice way" and spoke with obvious conviction of the need to put a policy into operation.

On Jan. 25, Morton appeared before the Senate Interior Committee for his confirmation hearing. He was asked by Sen. Gordon Allott, Colo., the committee's ranking Republican:

"Do you believe personally that HUD can administer a broad land use policy without placing most of the emphasis upon the 1 per cent of our land included in urban areas?"

Morton replied: "...I believe frankly it should be in Interior, and this seems to me a very easy conclusion for me to reach at this point in time."

Morton said he expected that some "middle ground" would develop.

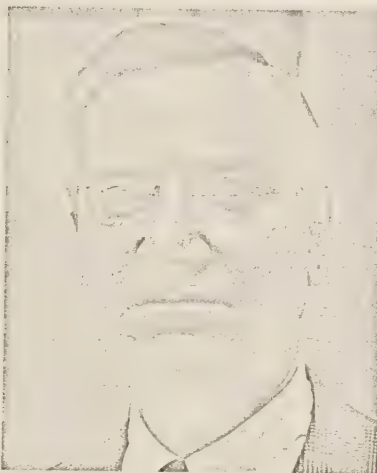
On the afternoon of Feb. 2, Morton, Romney and Train met at Train's office overlooking Lafayette Park to settle the jurisdictional question and other matters.

Also at the meeting, which lasted for about three hours, were Whitaker, Gibbons, Russell, and Samuel C.

Jackson, Romney's assistant secretary for metropolitan planning and community development.

Outcome—It is Gibbons' recollection that "there wasn't really much of a dispute" between Morton and Romney, and that, after some discussion of which department would be subject to the other's veto on certain items, "Romney suggested that Interior run it."

Orlebeke, asked about the outcome of the jurisdictional question, said,



Russell E. Train

"Either way, there was a need for coordination."

In an interview March 12, Morton said, "You could get on either side as to whether it should be in HUD or Interior."

But, he said, "after all of us looked at the scope and size of it," the selection of Interior was agreed upon.

A former Interior Department official said privately that when it came to a showdown between Romney and Morton, "everybody knew who held the winning hand."

A member of the land policy task force talked, on a not-for-attribution basis, of "how really silly it is for a bunch of bureaucrats to fight over jurisdiction when they all should be involved and have a contribution to make."

Revised bill: The Administration's bill was hastily rewritten to take into account the jurisdictional changes. The drafting was completed Feb. 11, three days after the President's message.

In another significant change, the penalty provisions affecting airport and highway funds were dropped. Train said the Administration deter-

mined that it would be "inconsistent" to propose a major new revenue-sharing program, on the one hand, and to threaten cutoffs of federal highway and airport funds with the other.

"So our 'sticks' went," Train told newsmen at a briefing Feb. 8 at the CEQ offices. "If anybody can think of any other good ones to use, let us know....We need some levers and we'd like to have more than we've got."

An official at the Office of Management and Budget who was involved in coordinating the land policy bill said that different task forces were at work on revenue sharing and land use. "Neither side was aware of what the other was doing," he said, and finally "the two circuits came together."

These are the major provisions of the revised Administration bill:

Grants—The Interior Department would pay states up to half the cost of developing and carrying out land management programs. The grants would total \$20 million a year for five years. There is no statutory formula for allocation.

Conditions—A grant would be made to a state only if Interior found that the state's land use program includes the following: a method for "exercising state control" over land use within areas of "critical environmental concern" and areas "impacted by key facilities"; a "method for assuring that local regulations do not restrict or exclude development and land use of regional benefit"; a policy for "influencing the location of new communities"; regulations "designed to assure that any source of air, water, noise or other pollution will not be located where it would result in a violation of any...pollution standard or implementation plan"; and a schedule for implementing its program.

States would be allowed to set criteria for local authorities to follow, or to impose their own land-control regulations.

The HUD Department would review and hold veto power over state plans dealing with large-scale development, key facilities, development and land use of regional benefit and new communities. The Interior Department could not award grants without the HUD Department's approval on these elements.

However, Gibbons and Reilly said HUD's review power would extend only to assuring that states have established a mechanism for carrying

out its plan; actual performance would not be subject to HUD control, they said.

Penalties—The planning and management funds could be cut off from states that fail to meet the bill's requirements.

Secretary's views: "I'm very excited about this," Morton said of the land policy bill. Looking "downstream," he said, "I think it's the big step" toward development of national policies on energy needs, urban growth and transportation.

Incentives—Asked whether the national land policy could be effective without stiff federal penalties, Morton said, "There was more of a 'stick' in (the bill) originally," but added, "I'm not too worried about the 'stick' aspect."

He said state governments need to become "heavily involved and motivated" in land use issues, but that he expects the states to take action through federal encouragement and through their own and local-level interest.

"It's like jumping into cold water," the Secretary said. "When you get in, the water is not so cold."

Local powers—Morton denied that the legislation is designed to erode local authority over land use and increase the federal government's powers.

"A federal, super-imposed land use plan has little chance" of ever being proposed or adopted, he said.

"It's inconceivable that we could come up with a land use plan for Talbot County, Md.," Morton said, referring to his home county on the Eastern Shore. The county has been developing its own land use plan, and Morton said this is the type of activity he hopes to see more often.

"There's no attempt on the part of the federal government" to abrogate local authority, he stressed. "We're not invading that prerogative."

Asked whether the federal government is not encouraging the states to take away some local land use powers, Morton said, "We're encouraging them really to designate more power and responsibility" to the local level, and to embark on a joint state-local effort to improve land use policies.

Funding: Funds to operate the land policy program would come from a government-wide contingency fund, according to an OMB official. There is no specific listing in the budget documents for the program, he said.

under either the Interior or the HUD Department.

HUD's fiscal 1972 budget seeks \$100 million for the 701 program in fiscal 1972, a \$50 million increase. Grants to state governments in fiscal 1972 are estimated at \$21.5 million; the fiscal 1971 level is \$8.9 million.

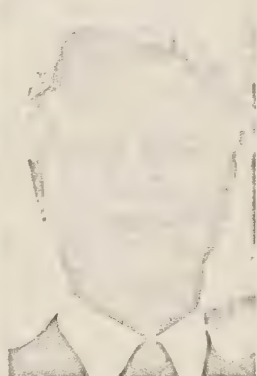
HUD Deputy Under Secretary Orlebeke, asked whether that increase was predicated on the assumption that HUD would be operating the land policy program, said, "At the time the \$100 million figure was

It was decided that the land use legislation would be referred to Jackson's committee, with provision for consultation and for possible re-referral later. An arrangement also was made between the interior committee and the banking and housing committee, which deals with HUD Department programs, so that the banking and housing committee's views would be considered.

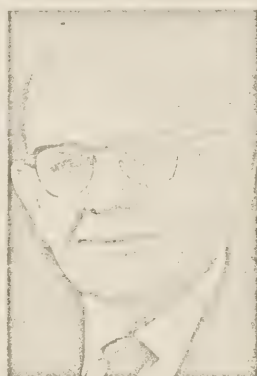
It was also agreed that Sen. Ernest F. Hollings, D-S.C., chairman of the Commerce Subcommittee on Ocean-



Henry M. Jackson



Ernest F. Hollings



Wayne N. Aspinall

framed, it was assumed that would help carry on some of the land use planning." However, he said, the budget increase still will be requested because of the high priority the department assigns the 701 program.

Congressional interest

Like many other environmental topics, the land use issue has drawn keen interest on Capitol Hill.

In the report (SRept. 91-1435) on Jackson's 1970 bill, the interior committee staff counted 12 committees in both chambers that received bills on matters relating to land use during the 91st Congress.

While congressional sentiment on the new land use legislation is not yet clear, the measure is bound to touch off conflicts on both jurisdictional and substantive points.

Senate: The President's 1971 environmental package stirred sharp competition among Senate committees. The land use bill attracted four committees: Interior and Insular Affairs; Public Works; Commerce; and Banking, Housing and Urban Affairs.

Public Works Chairman Jennings Randolph, D-W.Va., met with Jackson and Magnuson in Magnuson's office Feb. 23 to resolve competing claims on the package.

ography, would hold separate hearings on the coastal zone aspects of the Administration bill.

The Administration bill was then introduced on Feb. 25 and referred to Jackson. Hearings have not yet been scheduled.

Jackson, Muskie—Jackson's bill was reported last Dec. 14 by the interior committee, but Sen. Edmund S. Muskie, D-Maine, chairman of the Public Works Air and Water Pollution Subcommittee, blocked the measure from being considered under a unanimous-consent procedure.

An aide on Muskie's subcommittee said the bill contained defects too numerous to correct on the floor; a spokesman for Jackson labeled the action "a lot of damn foolishness and petty jealousy" on the part of the subcommittee staff.

Muskie and Jackson, now likely rivals for the Democratic Presidential nomination, also engaged in a jurisdictional contest in 1969 involving the National Environmental Policy Act (83 Stat 852), which established the CEQ.

Muskie has not yet indicated whether or how he will attempt to amend the pending bills. However, a Public Works Committee aide suggested one possibility.

The aide said that the bills do not really define good land use or bad land use. "Somehow the statute has to give some reference points by which to measure (state) performance," he said.

Other committees—Magnuson, in a letter to Jackson last March 23, objected strongly to any provision in a land use bill that would threaten the delivery of federal funds for airports—funds that are authorized by his committee. "I cannot support any action that would make nonfeasance by an individual state grounds for the reduction of airport and airways funds essential to our national airport/airways system," he said, adding that he would be happy to support such a bill otherwise.

Randolph has expressed his concern to Jackson over the possible effect of a land policy bill on distribution of highway monies and other public works expenditures handled by his committee.

A staff member of the banking and housing committee said there is considerable concern over how the Administration approach would tie in with the 701 program. The Administration bill also focuses on environmental issues while giving lesser attention to economic and social factors, he said.

Hollings, asked what he thought of the Administration land bill, told *National Journal*. "I don't like it and I think there should be a specific coastal zone approach." Hollings said a coastal zone bill could pass the Senate in 60 days, but "you get the realtors really stirred up about land use" and the chances for that bill would be uncertain.

The Senator said he planned to hold coastal zone hearings shortly, and if land policy legislation is stalled in Jackson's committee, "I'm going to keep my separate bill (S582) in and have it ready."

Hollings said the National Oceanic and Atmospheric Administration, which is under jurisdiction of the Commerce Committee, should operate such a program.

On the prospect that NOAA could become part of the proposed Department of Natural Resources, Hollings said he doubts that Mr. Nixon's reorganization plan will pass Congress. "He can't do it even if he gets a second term," said Hollings.

House: Three committees of the House are concerned with various

HUD Effort to Limit Local Zoning Powers

The Administration made a limited, and unsuccessful, attempt during 1970 to restrict the zoning powers of local government.

Unlike the national land use policy legislation now advocated by the Administration, the 1970 attempt was designed to further a social—not an environmental—goal.

The attempt was made by the Housing and Urban Development Department as part of its then-developing "open communities" policy, which is aimed at locating low-income housing in suburban areas.

On June 2, Secretary George W. Romney asked the House Banking and Currency Subcommittee on Housing to approve legislation empowering the federal government to override local zoning ordinances that excluded federally subsidized low-income housing projects.

Defeat: Sent up belatedly as an addition to the department's omnibus Housing and Urban Development Act of 1970 (84 Stat 1770), the proposal was defeated by the subcommittee Aug. 11 in a 5-6 vote.

Voting against the Administration were the five Republicans present at the meeting and one Southern Democrat: William B. Widnall, R-N.J.; Florence P. Dwyer, R-N.J.; Garry Brown, R-Mich.; J. William Stanton, R-Ohio; Benjamin B. Blackburn, R-Ga.; and Robert G. Stephens, D-Ga.

Voting with the Administration were five Democrats: William A. Barrett, Pa.; Thomas L. Ashley, Ohio; William S. Moorhead, Pa.; Fernand J. St. Germain, R.I.; and Henry S. Reuss, Wis.

The Romney amendment, which cleared the White House and the Justice Department two months after the omnibus bill cleared, reflected the White House's view of how an open communities policy should be implemented. The impact of the measure would have been restricted to newly developing areas and the most arbitrary kinds of zoning.

Romney's explanation: The most detailed explanation of the controversial amendment was made by Romney in testimony on Aug. 26 before the Senate Select Committee on Equal Educational Opportunity. Romney's explanation was divided equally between what the amendment would do and what it would not do.

What it would do—Romney said it "would prohibit local governments or their agencies from using any form of land use controls to prevent the reasonable provision of low- and moderate-income housing eligible for federal assistance in undeveloped or predominantly undeveloped areas which are in the path of development if the exclusion of such housing would be inconsistent with state or local comprehensive or master plans applicable to the areas."

As for its impact on developed communities, Romney said the amendment "would prohibit similar local discrimination against low- and moderate-income housing in any area (solely) on the basis of its eligibility for federal assistance...."

What it would not do—Romney said the amendment "would not apply to any area which was predominantly built up; and would not bring apartment houses into single-family neighborhoods and would not bring row houses into areas where large lots predominate." He said it "would not apply to open areas which are not in the path of development."

Opposition: Republican and Southern opposition to the amendment was outspoken from the start.

Republicans first refused to let the amendment be put on the subcommittee's agenda, claiming that it was not an Administration measure. To repudiate that claim, Romney wrote Rep. Wright Patman, D-Tex., chairman of the full committee, that "the amendment is consistent with Administration objectives."

Rep. Stephens of Georgia succeeded in getting the amendment separated from the omnibus bill, contending that its controversial nature would jeopardize the entire bill.

As a separate measure, the subcommittee voted it down on Aug. 11; later in the week, the full committee voted it down by voice vote.

William Lilley III

3/71 aspects of the land policy legislation.

Interior—Asked about the origins of Aspinall's land policy bill, Sidney L. McFarland, staff director of the interior committee, said "his bill came from an early draft of an Administration bill" and was revised with the aim of "getting the bill where we thought it belonged—in this committee."

McFarland said that Aspinall is "not wedded" to the penalty provisions included in the early Administration draft.

The Aspinall bill (HR 2449) was introduced Jan. 29.

McFarland said the bill might be considered by the committee's new environment subcommittee, which Aspinall chairs.

McFarland said he doubted that hearings would be scheduled on land use within the next two months because of the press of other items.

The interior committee also will be considering legislative proposals for public lands resulting from the study of the Public Land Law Review Commission, which Aspinall chaired. (*For a report on the development of the PLLRC study, see Vol. 2, No. 21, p. 1088.*)

Merchant marine—At the Merchant Marine and Fisheries Committee, there is still some sentiment for a separate coastal zone program to be operated by the NOAA.

Rep. Charles A. Mosher, R-Ohio, ranking minority member of the oceanography subcommittee, said he remains in favor of a separate coastal zone program. An aide to Rep. Alton A. Lennon, D-N.C., the subcommittee chairman, said Lennon feels the same way.

However, a jurisdictional dispute between the Merchant Marine and Public Works Committees over coastal zone legislation has stymied action thus far.

Banking and currency—George Gross, staff counsel on the House Banking and Currency Subcommittee on Housing, said of the jurisdictional question involving the HUD and Interior Departments, "it's a serious loss" for the HUD Department.

"This is a case where the land use policy needs of the urban sector lost out to the environmentalists," he said.

"I would suggest to our members that if we can't get the bill re-referred that we develop a Housing Subcommittee position on the bill" and at least testify on the subject, he said.

Other interests

The land policy bill would affect numerous levels of government—from the federal level down to the local village zoning board and soil conservation district.

Some states already have acted to impose stiff controls over land use in recent years. In most states, however, little or no control is exercised.

City and county governments, heavily dependent on property taxes that are based on zoning systems, are

man, who also has been serving as a consultant to the CEQ since last summer.

Bosselman is the author of *Alternatives to Urban Sprawl: Legal Guidelines for Governmental Action*, a study prepared for the Johnson Administration's National Commission on Urban Problems in 1968.

Bosselman is embarking for the CEQ on a field study of nine state and local innovative approaches to land control, including the San Fran-



President Nixon walking on beach at San Clemente, Calif.

not likely to welcome any erosion of their powers.

States: Even if federal land use legislation is adopted soon—and that action is not assured—state legislation would be required to put the program into effect in most states.

James H. Pickford, senior analyst at the Advisory Commission on Intergovernmental Relations, said the question facing the states will be:

"Well, we gave local governments zoning power—are we going to have to take it back again?"

The American Law Institute has been working on development of a new model state land use law, with the help of a Ford Foundation grant.

"The old models that were done by the Department of Commerce in the 1920s are still the basis for state legislation," said Herbert Wechsler, executive director of the institute. Its project—still a few years from completion—is designed to provide an up-to-date framework.

The CEQ task force developed its strategy in part from preliminary drafts by the institute's team.

One expert working on the project is a Chicago attorney, Fred P. Bossel-

cisco Bay Conservation and Development Commission programs, Hawaii's statewide zoning law, and Massachusetts' "anti-snob" law, a measure designed to overcome discriminatory zoning restrictions.

The study is expected to be completed by next fall, and could serve as a basis for future federal criteria for state programs.

Governors—During the winter meeting of the National Governors' Conference in Washington, the conference's committee on natural resources and environmental management listed development of a national land use policy as its third priority item, with "particular emphasis" on coastal zones. (The two top priorities: first, policy for striking a balance between growth and environmental quality and, second, getting more federal dollars for water pollution control.)

Gov. Kenneth M. Curtis, D-Maine, chairman of the committee, led a delegation that met with Secretary Morton over lunch Feb. 23 to discuss the land policy and other environmental topics.

R. Deane Conrad, special assistant to the committee, said word of the

proposed highway and airport penalty provisions reached the conference well before the legislation was revised. "We expressed our concern over the manner in which the penalty provisions were set up in that original version," Conrad said.

Gov. Daniel J. Evans, R-Wash., in Washington for the conference, was asked what he thought about the Administration proposal. "One more grant for one more categorical program is not the direction we ought to go," Evans said. He said he was not at all excited about the proposal and that the states "can do the job."

Evans has proposed a comprehensive shoreline protection plan for approval by the legislature; an even stronger plan has been put forth through a citizens' petition.

Cities: Hugh Miels Jr., a Washington consultant on urban matters, said he was "aghast" on learning of the Administration's land policy recommendations.

"It's a beautiful example of a move to duplicate, proliferate and overlap," Miels said. "I find it hard to understand why the Administration wants to duplicate a planning function (the 701 program) and then, to make matters worse, have it implemented by Interior."

"The Interior guys are basically land classifiers," he said. "They're used to dealing with farmers and ranchers and sheep herders....They're not urban planners....they never have been."

Miels, a former HUD Department official and legislative director for the U.S. Conference of Mayors, now is with the consulting firm of Linton, Miels and Coston. His clients include the cities of Chicago and Norfolk.

"I would counsel the League of Cities and the Conference of Mayors and the Council of State Governments to oppose this," he said.

The National League of Cities-U.S. Conference of Mayors has not yet developed a position on the legislation, a spokesman said. The Council of State Governments is an affiliate of the National Governors' Conference, which endorses the principle of a land use policy.

Strip Mine, Power Plant Bills

The Nixon Administration has proposed two major bills relating to land use, in addition to the National Land Use Policy Act, as part of its 1971 environmental package.

The two bills—the Mined Area Protection Act and the Power Plant Siting Act—would give the federal government specific authority to impose its own regulations in the absence of state action. The land policy bill (S 912, HR 4332) does not authorize federal regulation. Its only penalty would be a loss of federal planning grants for state implementation of the legislation.

Strip mines: The Mined Area Protection Act (S 1176) is designed to minimize further environmental damage from strip mining. States would be required to draw up plans for controlling all surface and some underground mining. If a state failed to develop a suitable program within two years, the Interior Department would be empowered to enforce its own standards.

Power plant sites: Under the Power Plant Siting Act (HR 5277), states would be required to authorize a state or regional agency to review future power needs and certify construction of generating stations and transmission lines. Construction would not be allowed until the agency gave a certificate, which could issue only after public hearings on the environmental impact of the projects.

If a state failed to meet the bill's requirements the President could designate a federal agency with exclusive certification authority.

Counties: The National Association of Counties raised critical questions about the Jackson bill in 1970 and is now developing a position on the new legislation.

In its Feb. 19 newspaper, the association commented on the Aspinall bill that "local governments, and especially counties, are completely ignored....The bill reverses and erodes the concept of local planning and zoning rights in the United States."

Private interests: Major private groups interested in land use policy are examining the proposals and their implications. Some foresee problems and urge Congress to move cautiously.

Chamber of Commerce—John J. Coffey, environmental affairs specialist at the Chamber of Commerce, said there would be some "tough internal struggles" before the chamber develops a position.

Coffey said some members might fear that the policy may eventually lead to greater federal control over land use, just as the water pollution control program has been leading toward concentration of standard-setting power in federal, rather than state or local, government.

"If the Western states ever thought that it would follow the route of the water quality program, they would never go for it," he said.

NAHB—The National Association of Home Builders, in a letter to Jackson last July 27, expressed fears that a land use policy would favor preservation of undeveloped areas and ignore the nation's housing needs. "Housing must have top priority," the association said. It wants a policy allowing more low-cost suburban housing.

The letter also pointed out HUD's role in planning programs and suggested that the interior committee consult with the banking and housing committee before taking further action.

NAM—The National Association of Manufacturers, in a statement on the Jackson bill, said it raised "serious" questions and counseled further study of the matter. The association said it favored "coordination" of state land use activities by a state agency but noted that "there has been a long history of delegation of zoning power by the states to their municipal subdivisions." NAM did not endorse any resumption of state authority.

Federal Role in Zoning: A New Perspective

In 1916, New York City adopted the nation's first comprehensive zoning ordinance.

The system arose in Manhattan not as an environmental quality control device, in today's meaning of the phrase, but as a way of preserving residential commercial property values.

The New York ordinance was in large part the handiwork of Fifth Avenue merchants who wanted to block the uptown march of garment factories into their carriage-trade section.

Federal endorsement: During the Harding and Coolidge Administrations, Secretary of Commerce (1921-28) Herbert Hoover commissioned the preparation of a Standard State Zoning Enabling Act and a Standard City Planning Enabling Act for adoption by the states. New York's action already had prompted similar moves elsewhere; the Commerce Department's encouragement accelerated the pace.

In his book, *Zoned American* (Grossman, 1969), attorney Seymour I. Toll describes the impact of Hoover's zoning law, which was prepared by a special panel of urban specialists and patterned after the New York code:

"In May 1924 the first printed edition was published. It sold more than fifty-five thousand copies, thereby becoming a best-seller by any standards. Within a year of its original issue, nearly one-quarter of the states in every corner of the nation had passed enabling acts which were modeled substantially on the standard Act....

"It carried the imprint of a federal department run by one of the most admired public figures in the nation. It bore the stamp of the respected New York pioneers.... And, pedestrian as it may seem, it enjoyed the blessing of tangibility. There stood the polished, printed words sparing local governments the struggle of drafting proposed legislation to be carried anxiously to their state legislatures."

By 1926, an estimated 30 million Americans lived in zoned communities. And in 1926, the Supreme Court, by a 6-3 vote, ruled

that local zoning controls are not inconsistent with the Constitution. (*Village of Euclid, Ohio v. Ambler Realty Co.*)

The zoning system spread with the continued growth of urban areas and the postwar development of suburbia. By 1960, 95 percent of the communities with populations of 10,000 or more were zoned.

In most areas, zoning regulations are the chief means of land use control today.

Criticism of zoning: Allison Dunham, professor of law at the University of Chicago and a land law expert for the American Law Institute, told the Senate Interior and Insular Affairs Committee during 1970 hearings how criticism of land use has changed in the past half century.

Before the introduction of zoning controls, he said, "the criticism... (was) that private owners of land could use their land to the detriment of the citizenry" within the local community.

Now, he said, critics say that a local government can regulate land use to the detriment of neighboring local government and the state as a whole.

"It is true most states have some agency which serves as a state planning agency," Dunham said, "authorized to prepare beautiful maps and ideal statements of policy; but very few have given a state agency power to control local land use regulations... or private land development... or even to control or coordinate the land use activities of operating departments of state government."

Overlapping—In his Feb. 8 message to Congress on the environment, President Nixon said, "Unfortunately, the sensible use of our land is often thwarted by the inability of the many competing and overlapping local units of government to control land use decisions of regional significance."

Henry M. Jackson, D-Wash., chairman of the Senate interior committee, has estimated that there are 600,000 governmental entities in the 50 states with direct or indirect influence over land use matters.

Chaos—In his book, *The Zoning Game* (University of Wisconsin Press, 1966), attorney Richard F. Babcock says:

"...The chaos in land use planning is not the result of uncontrolled individual enterprise. It is a result of a combination of controls and lack of controls, of over-planning and anti-planning, enterprise and anti-enterprise, all in absolute disarray. I doubt that even the most intransigent disciple of anarchy ever wished for or intended the litter that prevails in the area of local land-use regulation."

Regged application—The Council on Environmental Quality, in its first annual report on the environment, published in August 1970, said:

"Each year, expanding urban areas consume an estimated 420,000 acres of land in an indiscriminating outward push....

"Many suburban communities zone to assure that house lots are large and apartment houses few, a practice that assumes that land is abundant. This zoning practice, in seeking to attract moderate to high-income families, tends to exclude those in greatest need of the jobs opening in the suburbs. Excluding them deepens the concentration of poverty and unemployment in the central city ghettos....

"Open space is continuously eaten up by housing, which, with most present subdivision practices, provides few parks....

"While ideally, zoning should implement sound land use plans, it does not necessarily do so. It is usually honored in the breach by the granting of variances or amendments once the pressure of development is on.

"The close relationship between the land developers and members of zoning boards often jades public confidence in zoning as a tool for sensitive land planning."

Turnabout: With zoning now in considerable disrepute, the Administration, in effect, is asking state governments to take back some of the zoning powers they delegated to local governments nearly five decades ago—at the suggestion of the federal government.

1256A
31 March 1971
CEK

Re: The so-called Executive Promotion Bill.

If put into effect, this program would mean the end of scholarly research and analysis within the Federal Government.

With very few exceptions one cannot have top scholars in the Federal Government or elsewhere without research opportunity. This applies to research in both the natural and social sciences. Real research requires first-class scholars. Even after a man has completed his formal education through the Ph.D., or its equivalent, he is not yet a scholar. Hopefully he has learned the principles of scholarship and learned the languages of mathematics, economics, chemistry, and so on. He has studied his primary subject, and the closely related ones to his field, in depth. He respects the scholarship of scholars in other fields. He can read because he knows the languages of the fields important to him. His education is a continuous process and, if he becomes an educated man in a special field, this is considerably later than the degree-giving process. It should be clear that many first-class scholars did not even get an advanced degree.

A qualified research scientist understands the principles of both natural and devised experiments. He understands the principles of laying out a critical experiment and how to evaluate which data are critical.

It is highly important that the government have on its staff such scholars for consultation. Methods change, people change, economic conditions change, new diseases appear, and new opportunities for improving many fields are suggested by research results in other fields.

Competent scholars in the government can, as most do, perform two functions: (1) carry on important research competently and (2) be available for consultation as critical problems arise. Without these research opportunities competent scholars will not be attracted to the government and the government will lose the opportunity for scholarly advice when problems arise.

It is clearly obvious that this program would make all the top key positions "political." This can be party politics, bureaucratic politics, favoritism, and so on.

Any kind of scholarly research requires rather long periods of deep study. In real research one cannot estimate when the results may appear or how they may appear. They may come quite soon. They may not come for many years. They may never come to that man but to his assistants later.

Any thoughtful research scientist will not take these kinds of positions under this program. After all, most men and women have family obligations. They must have some assurance of continuity in their work for it to be productive. For all the real good ones, there will be many more favorable opportunities in good private research laboratories and offices of companies or in the established universities.

31 March 1971
CEK

Elimination of the Department of Agriculture

It is a bit difficult for a scientist who has had excellent opportunities for his work in the Department of Agriculture during the past 37 years not to react a bit emotionally to the prospect that the Government of the United States, whose agricultural system is the envy of the world, to contemplate that this great country would have no Ministry of Agriculture. It simply seems absurd. Rather, one cannot help wondering why such a suggestion could possibly have arisen.

Probably the reasons are not too difficult to find. Many years ago the words "agriculture" and "farming" were nearly synonymous. But now, of course, this is not even approximately true. Perhaps some 5 or 6 percent of the national labor force works on farms while about 30 or 35 percent works in agriculture.

When the industrial revolution hit agriculture, most of the workers were on farms. This would have been true in the times of Mr. Jefferson. On his farm he made his own tools for the most part and processed his own products like other farmers. The coming of the industrial revolution placed many new facilities in the hands of farmers including new machines, such as the steel plow. Then came a whole host of chemicals such as fertilizers, pesticides, hormones, weed killers, and the like. Marketing and processing of farm products became highly specialized in factories. In place of animal power farmers now use petroleum and electricity.

Despite these drastic changes in the nature of agriculture, the Department of Agriculture has allowed itself to be concerned mainly with farm welfare. At one time considerable research was done in these other aspects of agriculture, but most of that has died on the vine for want of purpose. It is now in the hands of other public and private institutions. The Department has not cooperated fully with either growing agricultural businesses or with the representatives of the labor in those businesses. Thus, it does appear to many people that the Department exists mainly to service the farm population. Actually, of course, this is not so. A good deal of both our research and technical assistance efforts do help people living in towns and cities.

This country desperately needs several hundred more vigorous towns. Farmers need them. No commercial farmer can make a good income without a thriving town nearby to supply its inputs and to process and market his products. The infrastructure for such a town can serve not only farming but other industries using local raw materials or, where freight costs for supplies and the finished products are low, local skilled labor. Such towns are far more desirable places for people to live and work than in the great crowded cities.

We have talked about a thing called "rural development." But to all but a few people "rural" means farming. There will be very few jobs on farms. "Rural development" sounds to many like "more relief for farmers."

If the Department had pushed a real town-and-country development, it would never have occurred to any reasonable person that we can get along without the U.S. Department of Agriculture. Thousands of business men and workers would have seen a place in the program for them.

Administration of the Department of Agriculture

It is a fact that the Department of Agriculture has been a very important part of the Government since its establishment in 1849. It has been responsible for the management of the public lands, the regulation of interstate commerce, and the promotion of agriculture and industry. The Department has also been responsible for the collection of statistics and the dissemination of information to the public. In the early years of its existence, the Department was a small agency, but it has grown steadily over the years. Today, it is one of the largest and most important departments in the Federal Government.

The Department of Agriculture is headed by the Secretary, who is appointed by the President. The Secretary is assisted by a Deputy Secretary and a number of other officials. The Department is organized into several bureaus, each of which is headed by a Chief of Bureau. The bureaus are responsible for the day-to-day operations of the Department. The Secretary is also responsible for the overall management of the Department and for the coordination of its activities with those of other departments.

The Department of Agriculture has a long and distinguished history. It has played a major role in the development of the United States and in the promotion of agriculture and industry. The Department has been responsible for the establishment of many important institutions, such as the Bureau of Entomology and Plant Quarantine, the Bureau of Plant Industry, and the Bureau of Animal Industry. The Department has also been responsible for the collection of statistics and the dissemination of information to the public. In the early years of its existence, the Department was a small agency, but it has grown steadily over the years. Today, it is one of the largest and most important departments in the Federal Government.

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April 1971

survey of Nevada, urged by a letter to the Secretary from Senator Bible.

After lunch we went over to the new Senate Office Building for our hearings on appropriations. The questioning was handled almost entirely by Senator Dale W. McGee of Wyoming with some assistance from Senator Hruska of Nebraska. Although shorter, the questioning followed the pattern of our recent hearings in the House. We were roundly scolded for presenting such a low budget. Grant handled it well and answered almost every question. Yet McGee got him tangled up a bit on the relations between geological surveys and research and soil surveys and related research. So Grant asked me to take over. I gave several examples of the relationships and how we worked together. Senator McGee congratulated me on my "eloquent" statement. I seemed to sense some sarcasm in it but the other boys said absolutely not.

I got back to the office about 4:00 p.m. with a few little rush items awaiting me. I had asked for an appointment with Grant and he called me down just a bit before quitting time. I talked with him about this absurd proposal of moving Paul Lemmon to Lincoln just about a year before he planned to retire. As usual he played Devil's advocate and asked me if I had discussed it with Mr. Davey. I said that I had not. He suggested that this looked like poor communications between the Deputy Administrators. I replied that it did indeed. Whitt and Davey had known about this for months and they knew that Lemmon was working very closely with the soil scientists in the Soil Survey and raised the question: why didn't they discuss it with me? I left him saying that Paul had showed me the memorandum this week and that it would be very expensive to the Service, lead to a great loss of most of Paul's accomplishments, and result in great inconvenience to him. I ended by saying that I hoped to be wrong but I felt certain that there was some personal vendetta that Dr. Whitt had against Paul.

April, 1941

At the hearing my teeth started to hurt so I had called our dentist for an appointment for the next morning.

April 2. About 8:00 I called at Dr. Woodell's office. By thumping and X-ray he decided which tooth was at fault and urged that I see a specialist down town by the name of Dr. Abe Sheingorn. I came home and Mommy took me to this dentist's office. After a considerable wait he deadened the tooth with novocaine and removed the nerve. I returned to the office.

We had the Service staff conference the first time in many weeks and it certainly was a bore. Whitt and Davey took most of the time in needless detail of meetings they had attended. At 12:00 I went to lunch and the tooth fell out, obviously weakened by the drilling for the nerve. I called the dentist and they suggested I come down at once. It was looked at briefly and I was told it should be attended to the following day.

Again I returned to the office, cleaned up what I could, and put the rest in my briefcase.

In the evening Mary Alice, Bob, and the children were here for dinner.

April 1941

April 3. I worked in the garden for awhile then Mommy took me down town to a dentist who completed the root canal. A little gardening and reading after that.

April 4. Gardening and reading and a reception for the Red Cross Executive Committee chez Harvey.

April 5. In the early morning I worked in the garden and later walked to my local dentist's office. He made the essential impressions for a new front tooth. I then walked to the Hyattsville office and took the bus to my USDA office.

I called Dr. Win Thorne and suggested that Dr. A. R. Southard take a consulting position with us to work on a team to go to India for four months beginning about July 1. He said he would look into it and call me back soon.

April 6. Routine and Thorne said that Southard was interested in the India proposition. It rained all day.

April 7. Worked a while on the FAO paper on environment. Leamy of New Zealand wrote us suggesting an exchange of soil scientists for a year. I doubt that our lawyers could figure out a way to do it.

We had a poor session of the Library Advisory Committee. The chairman, Ralston, was late and left early.

I talked with Southard and he was anxious to go to India.

April 8. I had an interesting conference with a Belgian boy working with FAO -- Culot. He seemed like a promising young man.

Bill's top secret clearance was settled. Now it will take another four to six weeks for his promotion.

Besides myself, Johnson, Hockensmith, and Smith as well as Bender and Klingebiel have assignments on this ridiculous environmental binge.

(See note attached.)

8 April 1971
CEK

Note to myself:

Today I realize more fully than before that I am facing a moral problem on this horrendous international and U.S. Government effort on the environment, and especially as it applies to the soils of the world.

Generally our soils under commercial farming have been much improved through use. Yet, these reports and statements bring forward every conceivable bit of soil blowing, erosion, loss of structure, overuse of chemicals, and so on, and so on. Some of these are problems, but many are blown up a thousand-fold beyond their importance. The reports are full of such false quotes as, "It is essential to monitor our soils (by planes and satellites) to see that they are properly used and not being ruined." What nonsense. One finds hundreds of such silly statements, mostly by non-soil scientists.

This day it is becoming clear that if I cannot be at least somewhat effective in getting these statements out, I must disassociate myself from these efforts and not let my name be used.

It is clear to me that much of this is promoted by certain American businesses with things to sell, such as equipment for monitoring. I simply must not allow myself to be used as a tool as American business has used AID as a tool to exploit Latin America.

April 1971

April 9. I worked in the garden until about 1:00. Then I changed and went to the dentist who put in a new and very expensive front tooth. I returned and spent some more time in the garden.

April 10. Eight hours in the garden pruning azaleas.

April 11. (Sunday). 7:00 a.m. to 2:00 p.m. in the garden mainly cleaning up and pruning. Evening dinner chez Johnson.

April 12. Worked on the Soil Survey Manual and so on. Carl Lindstrom suggested that I might be able to retire early in May.

April 13. In the morning I sorted papers and discussed my retirement with Johnson and Hockensmith. Since May is heavily scheduled for most of the directors they suggested June 16 next for a retirement "do".

Ed Cliff, Chief of the Forest Service sent me a copy of a completely absurd statement by Robert R. Curry, a so-called environmental geologist at the University of Montana entitled "Soil destruction associated with forest management and prospects for recovery in geologic time." We talked about it at lunch and he asked me to write a comment that he might insert in his hearings. So I worked on that.

April 14. I took the draft paper down to the Forest Service and we discussed it a bit.

In mid morning I had an interesting visit from Robert F. Eisenbeiss of R. G. Le Tourneau, Inc. on land clearing. He brought me some interesting illustrations of a new kind of blade pushed by about a number 9 caterpillar. Since Hockensmith knew his sticking powers my secretary popped in and reminded me of a conference at 11:00. He then left.

In the afternoon I worked a bit on the statement for Ed Cliff. Ken Grant dropped in and hinted that such a statement might embarrass the Service. I assured him that it should not. The Forest Service was already under very serious criticism by a group from the University of Montana School of Forestry

about clear cutting. I explained that I would not mention that subject because Ed Cliff was the foremost authority in the United States. An authority on soils he had asked me to do this. As a public servant I had no choice.

April 15. I took the statement on Curry's paper to the Forest Service in the forenoon. (Attached.) I told his secretary that he could use it, print it, or throw it away.

I spent most of the afternoon between telephone calls working on an outline sent to me by FAO of their proposed position paper on "Soil degradation" for the conference in Stockholm in 1972. I seemed to be interrupted by inquiries every half hour.

April 16. I had an early morning conference with Professor Cieric of Yugoslavia. I had worked out his program for a combined US Soil and Forest visit some time ago.

I worked quite a bit more on the FAO paper but had many, many interruptions.

In the afternoon Mrs. Adriana P. Orr called about some problems in soil terminology. She works for the editors of Oxford English Dictionary. I found some of the things she wanted and promised to do a little more searching for other words such as the first use in the US of the term, "gravitational water."

April 17. Early in the morning Mommy and I worked on this c.v. which delayed gardening until 7:00 a.m. Worked in the garden all day.

17610
UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Washington, D. C. 20250

April 15, 1971

MEMORANDUM TO: Edward P. Cliff
Chief, Forest Service

At your suggestion I have read the paper you handed me by Robert R. Curry, Soil destruction associated with forest management and prospects for recovering in geologic time.

On the principles of soil formation and how soils support plants, this paper is confused.

Soil is a collective term for an enormous host of individual pieces of landscape, which are individual soils comparable to individual plants or animals. This vast host of soils can be classified into a much smaller number of kinds. Since soil surveys have not been completed everywhere, we can only estimate the number of kinds that need to be recognized in making predictions about their use. Perhaps a safe estimate for the world would be around 500,000 to 1,000,000.

By a kind of soil we mean all those soils that have a similarly unique set of soil characteristics that has resulted from a unique combination of five principal soil-forming factors. The active factors are (1) climate and (2) living organisms--plants, animals, and micro-organisms. The active factors of climate and organisms work on (3) the earthy parent material. A few soils are developed from earthy material accumulated in place and not moved, but most are developed from earthy materials that have been moved by water, ice, wind, and forces of gravity, either during the weathering process or afterward. The active forces working on this material are conditioned by (4) the relief of the landscape and by (5) age of the landform. Many productive soils are very young, in the sense that the active forces have been operating on the earthy material for only a short time. Some have been supporting plants for only a few years perhaps, whereas others are extremely old. Then too, climates have changed drastically in most parts of the world so that part of the unique characteristics of some kinds of soil had been developed under a different combination of climate and organisms than the most recent one, and the original properties have been altered.

The modern concept of a kind of soil, now widely used throughout the world after some gradual improvements, is the one developed by the

founder of modern soil science, V. V. Dokuchaiev, about 1870. Dokuchaiev's concept was "rediscovered" and called an "ecosystem" about 40 years ago. Where a kind of soil and an ecosystem are defined precisely, they are identical in the natural landscape. Of course, where vegetation and associated organisms have been altered in order to grow crops, to build buildings, to control fires, or for other reasons, we speak not of the ecosystem but rather of the potential ecosystem that could be supported.

Technology based on modern science has given us many opportunities to change soils in order to increase their potentials. The proper use of lime, fertilizers, and other chemicals are extremely important examples. The many devices for controlling water are other examples.

A first principle of farming or forestry is to understand how the plants get their nutrients. In contrast to animals, plants themselves make the foods that nourish them. The process starts in the green leaf. From the energy of sunlight they form sugars with the hydrogen, oxygen, and carbon from the air and water. These carbohydrates are elaborated into proteins and many other organic compounds containing nitrogen, phosphorous, calcium, magnesium, and other plant nutrients taken up mainly by the roots into the plant. Some mineral nutrients are taken in directly from dust particles in the air.

As the plant grows, of course, it makes new leaves, gains height, produces fruit, and so on. Gradually a part of the leaves, fruit, and twigs and branches fall to the ground. They become food for large, small, and tiny animals such as termites and earthworms. Micro-organisms carry the decomposition further and release the nutrients for another cycle through that plant or into another plant. The plant gets its nitrogen partly from that fixed by thunderstorms and some ammonia that is carried by rain into the soil. Among the micro-organisms are free-growing nitrogen fixers and the symbiotic nitrogen fixers that grow on roots of the leguminous plants. It is generally through this process that soils are built up to a reasonably high level of fertility, depending on their age and degree of leaching.

Under intensive management on farmland additional nutrients are added to encourage high yields. Similarly it is commonly economic to use some fertilizer on young forest seedlings, and even for some of the older trees it is helpful to use lime and some other fertilizers in order to have a level of growth greater than can be had on highly leached soils by natural processes alone.

Some soils are very old, others are quite young. The maximum age for a soil in Michigan, for example, is about 10,000 years, but a great many are far younger.

Volcanic eruptions, floods, and other natural processes are continuing. Climates change. At the present time in the world a high proportion of the human food supply is obtained on soils developed from sediments along large and small streams and in their deltas. Another high proportion is grown on soils developed from loess--windblown silt. In Africa the soils of the forests in the central part have been continuously supplied with small amounts of calcium and other nutrients carried in by the winds of the north off the Sahara and by winds from the south off the Kalahari.

Of course, hydrogen ions are partly produced by decomposing organic matter, yet the decomposition also releases calcium, potassium, and other cations. As the different kinds of organic matter decompose, the remains vary widely in composition. But the important product of decomposition everywhere is the return of the nutrients used in growth for use by the same or other plants. Forest fires can be harmful to the soil if all of the ash is washed away, although this does not generally happen. A bad effect of destructive forest fires is the disturbance of the natural cycle of nutrients and the increase of runoff on sloping soils.

The author's remarks about soil use in commercial farming are uninformed. Corn yields in Iowa have increased about three-fold during the past 30 years or so due to improved genetic strains and some addition of fertilizers. Under natural conditions, the soils in Florida were essentially worthless for any kind of food crops. Even the Indians had to live on seafood. With modern application of the practices for water control, fertilization, plant selection, and all the rest, Florida now has thriving farming systems with livestock included.

The famous example of the destruction of old Mediterranean forests is due partly to drastic changes in climate. Some of the trees were cut and used for making boats and they did not regenerate under the new and drier climate. During the last many years of the glacial period, the Mediterranean area was moist. Even today there are huge bodies of sweet ground water beneath the surface of the Sahara. Part of that is now being used for irrigation. Studies of the wheat yields, with the prevailing poor varieties at the time, of the Romans show that there was more rain in their early periods than now.

Certainly forests in the United States and elsewhere can be harvested by whatever methods are best adapted to the soil, to the control of water, and to encourage good tree growth.

Certainly there has always been erosion on many steeply sloping lands in rainy areas. A certain amount of erosion is normal for soils in rainy areas. But we do need to avoid accelerated erosion as much as

practicable. Runoff and erosion have been increased as a result of accidental fires or of fires started by lightning. Some has been initiated on unstable sloping soils by improper layout of roads and skid trails. Much has been learned in the recent years on how to lay out roads to avoid unstable soils and serious erosion and landslides. But the evidence shows that a great deal of formerly cultivated soil has been successfully reforested and more will be. I know of no evidence that generally our soils in forested areas are becoming significantly thinner.

A certain amount of thinning of trees in the high country does increase the total runoff from the watershed because it prevents the evaporation of snow held in the branches and reduces loss by transpiration. This extra water can be used by people. The practice does not need to encourage erosion if properly carried out. I know of no examples, outside of critical slopes, where the soils are stripped of their nutrients. Of course, this could happen if all the vegetation were destroyed with weed killers.

The definition of soil given by the author on page 5 is not acceptable. The soil is formed in fine earth that is developed by weathering. A high proportion of this fine earth is moved from the place of weathering by wind, water, gravity, or ice.

On page 6 the author confuses clay with clay minerals. The word "clay" is used in two senses in soil science: (1) for those mineral particles less than .002 mm in size and (2) for soil material containing more than 40 percent of clay, less than 45 percent sand, and less than 40 percent silt. By no means are all clay particles "sheet-assemblages." Briefly we can speak of the "swelling" class that does adsorb water between the sheets, especially montmorillonite. These swell when wet and shrink when dry. Yet many soils rich in clay lack almost entirely these kinds of clay minerals.

If the nutrient cycle is completely interrupted for a long time or there are no alternative sources of cations, leached soils would become acid. Most soils developed under pine forests in northern Europe, and in northern United States and Canada, are naturally acid--not too acid for good forest growth but too acid for good growth of many kinds of field crops without use of lime. Lime could become essential for continued growth of forests on old sandy soils in the southeastern part of the United States.

I do not know what would be the average thickness of all the soil in the world. On steep, unstable, rocky mountain sides the soil is thin if any exists at all, but certainly on the whole soils are far thicker than 15 cm or 6 inches.

It is incorrect to say that man cannot build a soil. The Dutch have reclaimed large areas from the sea for cropping. They have done much of this successfully. On one of the recent polders they have successfully planted trees to enlarge the park space needed by the population.

Unless excessive amounts are used--and some gardeners and farmers do use more than necessary--there is little evidence that fertilizers leach away seriously. Much of the nitrogen that has caused eutrophication has come from decaying plants, animal manures in a few places, and from industrial and city wastes of various sorts.

No doubt soil erosion has increased since human occupation. But most of the soils under commercial farming today are more productive than they were when the Europeans came here. I am sure there was some unfortunate increase in erosion during World War I, resulting from the very high prices farmers knew would not last. Some soils were cultivated that should not have been selected for cultivation to take advantage of these high prices. Then following the war, prices were exceedingly low and farmers were unable to use the lime, fertilizers, and water control practices they do now. Farmers do not use fertilizers primarily to overcome depletion. Very few natural soils in the world give good yields, even the best, as nature left them.

The word "Missouri," applied to the river, means "Big Muddy." It always has been muddy as a result of the unstable landscape in the upper part of the watershed. I suspect that now the situation may be improved. At the time Lewis and Clark made their journey, there were great areas of open land in Montana where now there are saw mills. Because of the lightning fires in the western mountains and the prevailing westerly winds, fire swept across the plains, even across most of Iowa and parts of Illinois. Had the winds blown from the east, there would have been many, many more trees in the Great Plains. In fact, settlement encouraged tree growth in both the United States and Canada because the roads formed fire breaks. Then too, we must not confuse natural erosion as an active geological process and accelerated soil erosion. The unsupported estimates do not seem reasonable.

One cannot speak in the northwest about stable land surfaces for millions of years. Climates have changed drastically. There has been considerable volcanic activity. In parts of the northwest, during and after Pleistocene, podzolic soils were developed under forests. The climate became drier. The trees died and some of the surface material eroded away. Then this was covered by loess out of the stream valleys. The geology, the cover, and the soils have been modified several times.

126126

This claim of erosion stripping large parts of the western states now is overstated. First of all, men of European origin have not been there very long. I do agree that people living there have had more to learn about where to build roads and this learning process has gone quite slowly. Climates have changed. Where that has happened and a forest has burned, there is very likely to be a different second growth from the first kind of forest. The statement on page 18 that western soils on flat ground would become sterile is not responsible.

It is true that when carbohydrate is added to a soil by any process, the soil bacteria multiply. In their effort to get nitrogen and phosphorous for their own bodies they compete with the plants for these nutrients. But when the carbohydrate supply is used up, the soil has more nitrogen and phosphorous than before.

Much, too much, is made of the fixation of nitrogen by alder. Curiously, nothing is said about the nitrogen fixed in thunderstorms. Then too, in parts of the country, including the northwest, some damage has been done by fumes from smelting plants, including some over the line in Canada.

I am glad to have read this paper. The author predicts calamities that are extremely unlikely to happen.

Charles E. Kellogg
Deputy Administrator
for Soil Survey

April, 1971

April 18. Nearly all day in garden. Cleaned up ivy and fertilized lawn.

April 19. Worked on statement for FAO about soil conservation and routine letters and memos.

April 20. Again worked on FAO material on "soil degradation." Looked at a good new Caterpillar land-clearing movie.

I talked with Grant about me going to Rome in May and he in June.

April 21. I attended the nearly final meeting of Guy Smith's committee on soil conservation, intended finally as part of the American report in Stockholm in 1972.

I continued to work on the FAO material. Grant wanted help for a speech in New Hampshire in May.

April 22. In the morning I attended a Library policy committee. If Sherrod was telling the truth it became clear that services would have to be reduced drastically for lack of funds. I mailed a second paper to Rome.

April 23. I called John Rourke about going to Liberia to size up whether or not the government is serious about the soil survey.

I talked with Vrana in Personnel about making more specific and more clear in the new policy statement that the Service may at any time go outside the government for candidates to fill key positions.

April 24. Mixed azalea fertilizer, put it under the azaleas, and covered it with compost. Mommy helped and we were both a bit tired.

April 25. Mainly watering and pruning in the garden until 4:00 p.m.

April 26. I had a conference with Dr. Edminster and Dr. Robins about the corn blight watch! The rest of the day mostly mail and conferences in my office.

April 27. Filled out forms for retirement from the government effective 31 May next. I hoped very much that Johnson's appointment would get settled so that this would not need to be withdrawn.

April, 1971

I also had a long talk with Robert Tetro about a trip to Rome for FAO in June.

In the afternoon I had a talk with Vance, an SCS soil scientist back from the Punjab in India for home leave.

April 28. Many routine letters. With Dorny's help I applied for an official passport to Rome since that one is valid and my personal one had expired.

I had a long telephone discussion with Drosdoff about the final preparation of the report of his committee on tropical soils to the National Academy.

April 29. I spent most of the morning after 9:30 with Dr. Torio -- a lady in the National Academy of Science -- who was to look after the printing of Drosdoff's report, including a map largely made by us to go with it. She certainly needed help. Gockowski took the map, had his girl copy it on a very large xerox, and brought back a practical and useful dummy for guiding the drafting of it. She was very pleased.

I talked with a soil physicist from Rumania on a long trip here.

To cap off the day I was asked to write a paper for the next Yearbook "Town and Country Gardens." My paper would be on micro-climates.

That evening Mary Alice, Bob, and the children had dinner chez nous.

April 30. In the morning Bill Johnson and I ~~talked~~ at length with Ken Grant urging him to accept the suggestion that he be the US representative at the June meeting in Rome for the FAO final position paper for the Swedish conference. I hoped that we convinced him that our representative should be primarily an executive rather than a scientist.

May, 1971

I cleaned up my desk, wrote a few memos and letters and dictated my first rough draft for "The garden and its little climates."

A little after 1:00 I went out to Hyattsville and gave Jacobson a negative for which I urgently needed some positives.

Robert Kellogg came by with his big station wagon and we loaded in six boxes of my pamphlet collection.

Robert had brought back the many Joyce books he had borrowed for writing a critique on the Scylla and Charybdis section for a book on Ulysses. He did well. After a good visit Robert and Joan left a little after 4:00. I got the pamphlets arranged in a basement bookcase.

May 1. Mommy and I got up a bit late and worked on the G.V. so I wasn't ready to go into the garden until about 7:45. We put fertilizer and compost on the rose garden and the rock garden.

May 2. Early in the morning I finished composting and did some watering, pruning, and transplanting in the garden.

May 3. There were lots of protesters trying to hold up traffic but we got to the office easily. I had agreed to go to Rome during the middle of May to help FAO on their "environmental" statement at the 1972 meeting in Stockholm. Now they want me to come about the first of June.

In addition to routine I made a first draft of a paper on "Gardens and their little climates" for the 1972 USDA Yearbook.

May 4. We had another meeting of the Advisory Committee of the Library. It was a bit confused and little definite was decided about the actual services that would be available.

After lunch I prepared a statement for Cowden on soil productivity on the site of Plymouth Colony, which I finished the next day.

May 5. Mostly routine and in the evening Mommy and I went to a Red Cross dinner at Andrews Air Force Base.

May 6. I worked a little on Soil Survey Manual plus routine. I finished packing the pamphlet collection -- 20 boxes.

May 7. I worked much of the day on the Soil Survey Manual and also in the evening.

May 8. Set out 16 begonia plants and transplanted two George Tabor azaleas. Lots of earthworms.

May 9. Trimmed ivy on the house and cleaned the gutters. Cleaned up and tipped in ivy. Bill Johnson had dinner chez nous.

May 10. Mostly routine memos and conferences. Reluctantly agreed to go to Rome for FAO in June.

May 11. Routine and conferences including a long one with a few about the dangers of international controls in soil conservation by the usual bureaucrats in the less developed countries who have no scientific training and only contempt for the peasants.

For national competition the Departmental outside committee selected three outstanding USDA publications. One of these was the published soil survey of Swannee County, Kansas.

Mommy and I put up in the basement most of the bulletin collection.

May 12. We finished up our new Soil Survey schedule for fiscal years 1972-1975 for delivering manuscripts to the GPO. I also went over to Government Building No. 7 on 17th Street north of Pennsylvania Avenue for a new passport.

May, 1971

May 13. Worked a good deal on the Soil Survey Manual besides the usual routine and sent forward the finished paper on "Gardens and their little climates." In the evening I finished putting up the pamphlet collection in the basement.

May 14. Early in the morning H. Brammer called me. He was in town for a meeting with the World Bank. Since his soil surveys in East Pakistan are now so highly classified for military security reasons that few can see them, FAO had transferred him to the Rome office. I explained to him that I would be able to go to Rome in early June. I also explained these plans to Grant. Much routine.

May 15. I spent most of the day pruning azaleas and Mommy on lawn care.

In the evening it began to rain.

May 16. Rain. Worked on the c.v. Afterwards worked about 4 hours in the garden.

May 17. John Douglas was in. He was extremely pleased to be there for a Superior Service Award.

At 10:00 a.m. there was a meeting of the FAO Interagency Committee. Oris Wells gave an excellent talk on the background, program, and plans of FAO, including both internal and external difficulties. He spoke so softly though that few at the extreme end of the table could hear him. Ralph Phillips told me that Oris will retire at the end of this calendar year.

I spent the afternoon on papers and memos.

May 18. ⁱLyndstrom told me that Bill Johnson's papers would be settled this week.

I received a telegram from FAO about a "third paper" they were expecting from me on "Soil degradation and conservation." Robert Tetro sent a cable arranging for a telephone conversation the next day.

May 19. I talked with Sauma and Dudal and arranged to leave for Rome May 29 to be there a week.

I cleared my desk and went to the scheduling conference in Hyattsville which brought me home a bit early to work in the garden.

May 20. I took annual leave and spent most of the day pruning azaleas.

May 21. Yesterday the Service received two very curious messages. Addison, the state conservationist in New York, wrote a vigorous memo complaining about the size of the type used on the front cover of published soil surveys. We all decided that things were a mess in New York if he took time for this silliness. We also had word that 1,500 copies of the new published soil survey of Litchfield County, Connecticut somehow got spilled off the train. Since, of course, the boys couldn't read, it was a long time before this wreckage was reported. The surveys were in big boxes only one of which had a label, and it was lost. I suspected this was the congressional supply.

As usual I took home a load of papers.

May 22. Again all day in the garden.

May 23. I spent all day in the garden mostly pruning azaleas.

May 24. I drove to the office. Packed many things in the car to bring home. By then I had passport, tickets, and hotel reservation in Rome.

I had to be Acting Administrator for the last few hours.

May 25. In the forenoon I roughly arranged books in the basement and helped Mommy receive new bedroom furniture.

In the afternoon I worked in the garden part of the time and helped with the furniture as needed.

May 26. I handled considerable correspondence and conferences and packed things to take home.

May 27. I took leave to work in the garden, mostly pruning azaleas. In the middle of the afternoon Norman Berg called to say that Johnson's appointment to my place had been approved by the Secretary effective 1 June. What a relief!

May 28. This was my last day in the office as Head of the Soil Survey. I already had my passport and tickets for Rome. I finished the final packing and closed the day.

May 29 (Saturday). I cleaned up a few chores in the garden and completed my packing. Mommy took me to Dulles Airport.

We left home about 3:50 because we expected the plane to leave at 5:45. Yet apparently no one had thought to get the TWA plane ready. Passengers got in a wagon and then sat on the field in the rain while the plane was serviced. We were finally in the air at Dulles at 6:44 and were down in Boston about 7:45. They herded us all in the airport and we went through metallic sensors. So I was frisked but all they found was my steel brace.

I was seated in the plane at 8:30 p.m. but the crew continued to delay. We were not in the air until 9:15 p.m. -- over an hour late. I was already tired, hungry, and sleepy.

May, 1971

The girls took about an hour and a half to serve drinks and dinner came at 11:10 P.M. I had a nice tiny piece of chicken but the rest was very poor.

Although the seats were very crowded I stretched out the best I could and because of the blinders I slept 2 or 3 hours or maybe a little more.

May 30. One day changed to another. About 8:30 a.m. Paris time we were down at Orly -- only 45 minutes late.

I stayed on the plane rather than standing in line to get off and then again to get on. The TWA service crew came on "to clean up." They did nothing. I thought I had never ridden in such a dirty plane.

We lost some more time and were in the air for Rome at 9:50. The wheels were down in Rome a little after 12:00 noon Rome time.

Dr. Dudal got me through customs in a hurry and about 1:40 p.m. I was at the American Palace Eur hotel.

We chatted for a while and I dined with the Dudals and was back to the hotel about 9:15 very tired.

FAO had asked me to come to help them prepare a statement for the meeting in Stockholm in 1972 on the environment. I had already sent them an essay on "Soil Conservation," and a paper on the same subject for a British journal, and a 17-page paper of comments on FAO's tentative outline on "Soil degradation." They told me they were handed that title, which was purely negative.

May 31. Dudal came by the hotel to pick me up and I worked on several statements that they wanted for their presentation. Fortunately, they furnished me an excellent secretary. First of all I dictated a long statement on "Accelerated soil erosion control standards."

may - june 1948

We also discussed a series of "action programs" that could be applied in the ldc's.

I was taken to the bank at FAO to receive 74,800 lira for my per diem during the week. I also signed a formal contract to receive \$100 a day while in Rome and \$50 each day while in travel.

I had a long discussion with Dudal during the whole period and with Smyth and some others. I was impressed with the very long coffee breaks and lunch hours. Also there was a lot of movement that reminded me of the old biblical quotation that runs something like, "There will be much coming and going and thereby will knowledge be increased."

I also made outlines for other statements to be done both at FAO and in my hotel room a little later.

June 1. I was up at 6:00 a.m. after a fairly good and needed sleep.

I prepared some material on international research that would be in multiple-country institutes. I laid special emphasis on the important unknown sources of nitrogen other than fertilizer, especially in the Tropics, and also on the problem of phosphorus availability.

I also prepared a statement on the great need for the protection of the original sources of germ plasm for the important crops. Many of these are in the ldc's and they need some financial help.

Then I prepared rather longish statements on national research programs with emphasis on soil survey, adaptive research and so on.

The evening of June 1 I had dinner chez Dudal along with Brammer and an Indian member of the FAO staff.

The Dudals told how 3 years ago Easter, while they were at the sea, their house was robbed of everything but the heavy furniture. They got back only a slide projector that he saw in the "flea market" and for which he had a receipt that included the number on the lens.

June, 1971

Rome traffic was worse than terrible because military vehicles, including tanks, were parked all over the place.

June 2. This was a national holiday with a silly military parade. I had been told that it would be impossible to get from my hotel to FAO. I worked in the hotel room on outlines that I discussed there with Dudal between 2:00 and 5:30 p.m.

In the evening I finished the notations for further dictations on monitoring, educational aspects of soil conservation, and so on. I worked especially on an outline for a set of notes on legislation. Then too, Dudal gave me a paper prepared somewhere in FAO on "The environmental aspects of natural resource management: agriculture and soils." This paper was essentially false on all major points including the notion that farming degrades soils. Actually most soils under commercial farming are better now than they were in nature. The statement was made that the new high-yielding varieties would lower soil productivity. Actually, these varieties were bred to respond to more water and more fertilizer and without these practices the old varieties were better.

The authors did not realize that a natural soil was identical to the new term "ecosystem." The paper showed complete ignorance of soil classification and most basic principles in successful farming.

June 3. I spent most of the morning and early afternoon in dictation. (Copies attached).

I had about a half-hour chat with Oris Wells who planned to retire from the post of Deputy Director General of FAO December 31, 1971.

About 4:00 p.m. Mrs. Dudal came and we took a two-hour shopping tour for gloves, purses, etc. for my family and my secretary. She was extremely helpful and always got me a discount.

DRAFT

WER:ap

1.4.1971

SOIL DEGRADATIONTentative OutlineI IntroductionA. Delineation of Scope

Give the definition of soil degradation, particularly in relation to wise land use, since the scope of the paper will depend primarily on this definition.

B. Brief Historical Background of Soil Degradation

Discuss briefly the importance of the problems, and the extent to which soil degradation has affected land use and economic, environmental, and other resources; the major factors which have contributed to the problems; and what has been done to alleviate or prevent them.

Review the existing status of knowledge regarding soil degradation, with special reference to technological and other gaps, and indicate new or improved technologies which are available or potentially available.

C. Interrelation with Similar Media

Explain how soil degradation is interrelated with other environmental problems connected with specific or environmental resources.

II Soil Degradation Problems: Types, Causes, EffectsA. Specific Types of Soil Degradation Problems

Discuss specific types of soil degradation problems (see following list), and their causes.

1. Soil Erosion

a. water erosion-runoff

b. wind erosion - soil blowing

2. Salinity - alkalinity, including poor irrigation practices

3. Waterlogging and/or flood damages

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4. Pollution from agro-chemicals
5. Misuse of marginal/sub-marginal land, including dune encroachment

Also briefly review additional factors which cause soil degradation, such as: overgrazing, burning of grass and forested areas, shifting cultivation, and others (at the discretion of the author).

B. Effects of Soil Degradation

1. Discuss the effects of soil degradation on social, economic, and agricultural development, present and potential, at a national, regional, and global level, particularly at the national level.
2. Explain how wise land use is directly affected by soil degradation. Also how soil degradation affects such factors as food production, soil productivity, planned targets of production, environment damage and deterioration, investments, health, and esthetic values.

C. Measurement and Evaluation of Status of Soil Degradation: Its Extent and Intensity

1. Measurement and evaluation of the soil degradation problems requiring attention.
2. Status of knowledge on soil degradation problems and the degree of its application, with particular regard to the problems given in Section II A.
3. Adequacy of criteria and standards which have been established for the control of soil degradation.
4. Socio-economic and legislative aspects of soil degradation.
5. Feasibility of action measures to be taken.
6. Forecast of soil degradation effects if action plans are not implemented.

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II Proposed Guidelines for Action Plans to Meet Soil Degradation Problems.

Problems

In this section the paper should discuss principal action plans, policies, and programmes which require the attention of the policy makers and others at a national, regional, and global level. The paper should particularly emphasize the means of filling knowledge gaps; the action plans, policies, and programmes to be followed after the needed knowledge and organizational and financial support is obtained; and specific action proposals to meet each of the soil degradation problems cited in Section II A.

The factors which follow are identified in relation to action proposals and policy guidelines and should be discussed in relative detail in the paper (The factors are not given in order of priority; this is left to the discretion of the author).

A. Action Plans, Policies, and Programme at National, Regional, and Global Level

1. Legislation

Most countries have conservation legislation. Briefly review why it has worked in some countries, but has not in others.

Action Required: Practical and realistic conservation legislation, at the national policy making level, should be established. Countries should be provided assistance in preparing such legislation so it can be implemented at the farmer level. Government officials, again at the policy making level, should be made aware of the necessity for preparing and implementing legislation which can be enforced. Establish at a national, regional, and world level the organizational, financial, and administrative means to implement and enforce legislative policies concerned with soil degradation (National, Regional, World).

2. Education

Many of the soil degradation problems stem from ignorance or misunderstanding of the problems.

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Many of the soil degradation problems stem from ignorance or misunderstanding of the problems.

Action Required: Education, at the farmer level should be provided by farmer meetings, demonstration plots on farmer's fields, strengthening the extension and soil services by additional staff in order to teach and demonstrate proper land use and its maintenance. First of all it may be necessary to educate the policy makers before education in depth can be implemented (National).

3. Organizational Structure

Many countries do not have the organizational structure, both staffing and financial means, to meet the problems of soil degradation.

Action Required: The establishment, when it is not present, of a Conservation Service (or similar Service). The organizational structure of such a Service should be at the national policy making level but of such an organizational depth that it reaches down to the farmer in order to provide him with direct assistance. (National)

The Service should also have the staff and financial means to cope with present soil degradation problems, as well as to prevent them from recurring.

4. Inventory and Appraisal

There is a need for establishing at a national, regional, and world level, techniques for assessing, evaluating, and classifying the status of soil degradation.

Action required: Preparation of surveys, maps, and inventories (i.e. soil erosion surveys, soil salinity surveys, etc., with accompanying reports and maps) at a national level (Government's responsibility), Regional and World level (possibly FAO) to identify the type, amount and location of soil degradation. (National, Regional, World)

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5. Financial Assistance

In many countries, farmers, especially small holders, cannot carry out good management practices because of lack of money.

Action Required: Establish, where applicable, credit facilities at a reasonable rate of interest through nationally sponsored lending organizations and private banks to provide the financial means for establishing good management practices and the implementation of soil degradation control measures. (National)

6. Research

Fundamental research programmes are required to provide solutions to soil degradation problems.

Action Required: a. Establish soil conservation research centres at a national level (financial means for staffing and equipment must be available), followed by similar centres at a regional level. (National and Regional)

b. Form a Commission on Conservation Management Use (Regional)

c. Compile data relating to the development, conservation, management, and use of soil resources and promote exchange of information in these fields. (National and Regional).

d. Establish a Coordinated Adaptive Research and Demonstration Programme (National and Regional).

e. Establish a Consulting Committee for the interchange of information and experience on soil resource management (Regional).

f. Research on methods and techniques for the conservation and proper land use of soil as a preventive measure against soil degradation, and for the guidance of conservation and reclamation programmes and advisory services (National).

g. Standardize research programmes, particularly in main ecological zones, to ensure that individual national programmes are complementary. (National, Regional)

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ecological zones, to ensure that individual national programmes are complementary. (National, Regional)

7. Social Aspects

Social problems in some countries are a deterrent to getting conservation measures on the land.

Action Required: a. Assess the social implications of applying soil degradation control measures.

b. Review land tenure problems associated with soil degradation problems (National policy making level).

c. Establish a cooperative approach to conservation on small or fragmented holdings ^{or} a means of combating soil degradation (National).

8. Pollution Control

Pollution control curbs are needed in some countries.

Action Required: a. The establishment of stricter and more systematic enforcement policies (National)

b. Afford economic incentives to stimulate conservation control measures against pollution resulting from soil degradation (National).

9. Monitoring

Monitoring as a means of controlling further soil degradation is required at the national, regional and world level.

Action Required: Identify and establish environmental parameters. After this is done, develop and utilize a comprehensive system of environmental monitoring, information, and analyses as a means of controlling soil degradation. (National, Regional and World level).

10. System for Priorities

There is a need to identify pressing problems for immediate action.

Action Required: Governments should establish priorities on which problems relating to soil degradation should have first claim on their national organizational and financial resources. Five criteria could be established:

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(1) importance of the problem; (2) rate at which the problems are going to increase in intensity over the coming years; (3) the irreversibility of the damage if immediate action is not taken; (4) the measure of benefits to the people of the country compared to the cost of taking action; and (5) an evaluation of the feasibility of soil degradation control and reclamation measures.

11. International Assistance

There is a need in many countries for technical and financial assistance to implement action plans.

Action Required: Consider and utilize the ongoing and planned activities, including the financial and technical assistance, of the United Nations system of organizations, and their capacity to implement action programmes (National).

Proposed Action to Meet Specific Soil Degradation Problems

Discuss specific action proposals, particularly remedial measures, to meet the soil degradation problems cited in Section II A.

1. Immediate measures (emergency)
2. Curative measures
3. Preventive measures
4. Future measures

Recommendations

- A. General Recommendations
- B. Specific Recommendations

The recommendations should be those which can be submitted to the UN Conference on Human Environment, Stockholm 1972, for adoption.

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Action Required: Consider and utilize the ongoing and planned activities, including the financial and technical assistance of the United Nations system of organizations, and their capacity to implement action programmes (National).

Proposed Action to Meet Specific Soil Degradation Problems

Discuss specific action proposals, particularly remedial measures, to meet the soil

degradation problems cited in Section II A.

1. Immediate measures (emergency)

2. Curative measures

3. Preventive measures

4. Future measures

Recommendations

A. General Recommendations

B. Specific Recommendations

The recommendations should be those which can be submitted to the UN Conference on Human Environment, Stockholm 1972 for adoption.

ACCELERATED SOIL EROSION CONTROL STANDARDS

Erosion includes the general process of the reduction of land surfaces through the actions of beating rain and running water. The earthy material accumulates as sediment out of the running water on the lower slopes of mountains and hills. Much of it settles along the margins of rivers and in their deltas. Many of the most productive soils in the world are in turn developed from these alluvial sediments.

Nearly all upland soils are subject to a slow process of natural erosion. In Nature, most kinds of soil have a characteristic depth of soil material over the not-soil beneath. Some are renewed by fresh materials falling on the surface, say calcareous dust or volcanic ash. Others receive new material by incorporation from the earthy material beneath the soil body. As natural erosion proceeds the soil, remaining at the same depth, gradually sinks.

Our great concern is with accelerated soil erosion, which removes soil either in sheets or gullies much faster than does the natural process of erosion. Basically, the problem arises from failure to control the amount and concentration of running water that removes the soil. Generally speaking, this process is more active on soils that are bare, or partially bare of vegetation on fairly strong slopes, but it can be serious on very gentle slopes if the soil has lower permeability to water. Thus the problem of erosion control depends upon the violence of storms and the total amount of such storm water and the speed with which it can soak into the soil, as well as the total amount that the soil will receive. We need to consider the total depth of soil over a rock or coarse rocky material, or over clay pans, hard pans, and other layers

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or horizons within the soil profile on which it is not practicable to restore the productive soil through management for crops - tillage, fertilisation, and other treatments. Deep silty soils without hard pans may be eroded to a depth of a metre or even more and if the erosion is controlled at that point damage may not be serious. Yet other soils can be greatly harmed by the removal of only 10 or 15 centimetres or so if this exposes an intractable clay or other material from which it is extremely difficult to develop a new surface soil that performs its function of storing water and nutrients for plant growth and which roots can penetrate.

To prevent the erosion of any soil subject to erosion we must know the normal infiltration rate of water into the soil and the amount that falls in individual storms; that is, long gentle rain normally causes far less erosion than does the same amount of water in a storm of only half an hour or so.

Closely growing permanent vegetation is the ideal cover for many erosive soils. Unhappily, this kind of cover is not economic in all situations. On a mixed farm with both crops and livestock skilful farmers use the erosive soil for pasture and grow their inter-tilled crops on the less erosive soils. Yet in many instances it is necessary to use terraces to interrupt the flow of water from heavy storms. These are designed as low ridges at slight angles to the contour so that the extra run-off gathers behind the ridge and flows slowly and harmlessly to a prepared outlet. These terraces must be designed to care for the water of heavy storms so that it will not break over the terraces and start a serious gully. Formulae are available in several countries for the calculation of the essentials of the design from a knowledge of infiltration rate and capacity of the soil and the frequency and severity of the storms.

has not submitted, again, some must have been in the building at that time.

...of the **Exhibit**

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(The following text is mirrored from the previous page)

This document is prepared as a confidential communication under the provisions of the Freedom of Information Act.

we often wonder how often it is necessary to review a case

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of art and science and of our daily lives.

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10-10-68

and the world as I find it. To make a statement of progress would be like saying

Clearly, creating a new environment is the ideal way to start over.

well, though, one that is not unique in all respects.

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1982

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when they jump river, there are no good as a few things, it is not well.

...the company is still the largest employer in the area.

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RECEIVED BY THE DIRECTOR, FBI, 11/11/64

all dei sottoposti devono essere affidati con sicurezza. Gli altri restano a posto. Ma

...the results of the investigation of the ...

with the exception of the fact that the [redacted] and [redacted] of the [redacted]

This kind of protection is also needed for nearly level or gently sloping soils below steeper slopes. Principally, these are called "diversion terraces" that protect the lower soil from being either eroded or soaked. Commonly, such diversion terraces are considerably higher than normal field terraces and may need masonry paved outlets to avoid gully formation. Such requirements are not limited to fields and orchards but are needed to protect many homes and other buildings.

The natural erosion processes also influence forest land. If the soil is shallow over steeply sloping rock, little plants establish themselves and finally the seeds of large trees find a foothold. As these trees grow they increase enormously in weight and may soon carry all the soil down the slope in a tremendous slide. Because of this effect we know that potentially large trees should not be planted with the thought of erosion control on unstable soils along gullies and banks. Many of our commercial forests in the world are situated on steeply sloping soils in areas with considerable rain. There is a general feeling that cutting these forests brings about landslides and erosion. Actually, the greatest hazard is from the construction of roads and skid trails to remove the logs. Unless great care is exercised, these roads may help to concentrate the water and start the landslide. Thus the proper layout of skid trails and roads in highly forested regions is an extremely important matter to avoid great damage to the forest soil by slides and erosion.

farm crops, tillage, fertilization and

over

The natural economic processes also influence forest land. In the soil
in shallow over steeply sloping woods, little plants against themselves and
finally the seeds of many trees find a foothold. As soon as they
begin to grow, they are not only in the soil but also in the
in a favorable place. Because of this they are more and more
these should not be limited with the growth of the forest. In the
soils along gullies and brooks. They are very common in the
are affected by steeply sloping soils in some with numerous
in a general feeling that nothing more forest but forest
natural. In fact, the present forest is from the destruction of woods and
that forest is more the fact. These forest are in a forest, forest
are help to maintain the water and soil the forest. The forest
forest of this forest and make in light forest region in an extremely
forest and water in some forest in the forest with light and water.

This kind of protection is also needed for nearly level or gently sloping soils below steeper slopes. Principally, these are called "diversion terraces" that protect the lower soil from being either eroded or soaked. Commonly, such diversion terraces are considerably higher than normal field terraces and may need masonry paved outlets to avoid gully formation. Such requirements are not limited to fields and orchards but are needed to protect many homes and other buildings.

The world has many kinds of soil combined with many climatic patterns. In several countries a great deal of experience has been accumulated with how to design erosion control systems for both arable and non-arable soils to protect them for intensive use and use in forestry. Yet the world has a great many types of soil and not all of them have been completely studied. A very important effort should be made by FAO to accumulate the existing results from the research done in this area and especially from the experience of land users. In so far as possible these should be related to at least the broad kinds of soil or to other descriptions as to depth and infiltration rate in relation to an estimate of the local climatic environment. This needs emphasis because experience gained in one country or continent can be easily transferred and made available to users in other countries or continents having similar kinds of soil and climatic patterns. Initially, such an accumulation of results will have considerable variation in specificity and early estimates may need to be revised as new data become available. Since FAO has working relationships with many Governments, a reasonably good start could be made in this area.

This kind of protection is also needed for small firms or groups
operating within a few states. For example, there are small "business
communities" that protect the laws and thus being able to control
themselves, with financial resources and considerable higher than small firms
resources and are more likely to be able to resist competition. And
regulations are not limited to firms and companies but are needed to protect
small houses and other buildings.

The world has many kinds of well regulated with very different policies,
in general, including a great deal of experience has been accumulated with the
in which business control systems for both public and non-public firms in
protected from the international and are in the world. But the world has a
great many types of well regulated and all of them have been completely different.
A very important effort should be made by the international community
to study the various laws in this area and especially how the government
of each country. In as far as possible these should be related to at least the
basic kinds of well as to other descriptions as to legal and institutional
in relation to an analysis of the local situation. This work should
also be done especially in the country in question and be easily
transferred and made available to those in other countries or business
having similar kind of well and similar systems. Finally, such an effort
should be made. All have considerable variation in quality and quantity
and it will be needed to be worked on how data become available. Thus the
world's organizations with the government, a community, good state is
also in this area.

Besides soil and climatic patterns, the results should be specific as to the kind of crops, their spacing and the amount of bare soil on which the rain may fall during the year.

In descriptions of methods for successful use, the emphasis should be placed on the design of diversion terraces, outlets and other constructions rather than on the methods by which they are constructed. In some parts of the world terraces especially are made almost wholly with machines. In other countries excellent terraces are made by carrying the soil in baskets on the head or moving it with horses and bullocks. One wants to find the most economic method to reach the proper design; thus, if machines are not available labour may be employed usefully in this important work with good results.

Out of the accumulation of these results and with full consideration of the relative availability of funds, machines and labour, FAO can and should develop some useful standards for the different kinds of soil/climate situations, with alternatives of different systems of soil use for crops, trees and pastures. Then too these same kinds of standards, with appropriate modification, can be extremely useful in many parts of the world in town planning and development.

International Research

The Ford and Rockefeller foundations have created a few highly effective basic research institutes for developing improved varieties of crops, especially cereals and methods for their management and protection. It has been very difficult for several Governments to agree among themselves for all to contribute equally to such a research institute stationed in another country. Yet such institutes are highly desirable for certain common difficult problems in the basic research area. The depth of research required is commonly greater than that which could be expected in any one of the less developed countries. These research needs can be illustrated by two examples common in moderately to highly humid tropical areas.

1. Sources of nitrogen other than fertiliser

Nitrogen for crop growth comes into the soil from several sources, including fixation during thunder storms, ammonia brought down by rains, fixation by organisms living symbiotically in the soil on the roots of certain legumes, free-living bacteria and other organisms growing in the soil, and in unknown ways that are probably of biological origin.

The amounts of nitrogen furnished by the soil to crops on several kinds of tropical soils is too large to be accounted for by presently known sources. If these unknown processes of nitrogen fixation in the soil, or possibly in the plants, leaching to the soil, could be discovered and explained doubtless they could be augmented considerably through management. This problem has a high significance in many parts of the world but especially in those parts where transport or fertiliser material are either extremely expensive or downright non-existent.

Biological Survey

The first and important consideration has been a very large amount of land which has been the subject of various surveys, especially in the case of the land which has been surveyed by the Government. It is not possible to give a full account of the work done in this connection, but it is worth noting that the results of the surveys have been of great value in the study of the biology of the country. The results of the surveys have been of great value in the study of the biology of the country. The results of the surveys have been of great value in the study of the biology of the country.

1. Survey of the Biological Resources of the Country

The first step in the study of the biology of the country is the survey of the biological resources. This is a task of great importance, and it is one which has been the subject of much study and discussion. The results of the surveys have been of great value in the study of the biology of the country. The results of the surveys have been of great value in the study of the biology of the country. The results of the surveys have been of great value in the study of the biology of the country.

2. Phosphorus availability in plants

Most tropical soils suitable for arable farming are known to respond well to manure, yet in many places both manure and compost are in short supply. On some of these tropical soils that do respond to manure the same result can be obtained by adding the same nutrient elements in chemical form but on others, up to now, phosphorus fertiliser gives no result without the manure. Several scientists have speculated that some chelating agent is responsible yet actually no one knows. Considering the enormous importance of phosphorus to plants and the high cost of transport in remote areas, this problem needs investigation, probably by an inter-disciplinary team of soil scientists skilled in the techniques of soil chemistry, soil fertility experimentation, and soil micro-biology. In addition, the team should have the services of someone skilled in soil classification and identification so that the results could be worked into a standard system of soil classification.

Research and Protection of Germ Plasm Centres.

Continually, plant geneticists must return to the original sources of several of our most important food crops to find living specimens that are resistant to newly discovered diseases and insects. As crops are bred and selected for yield and quality the germ plasm becomes automatically narrowed, then if a new insect or disease appears the entire crop of a farm or a whole community can be destroyed. This has happened again and again in the history of many important high yielding crops. The plant geneticists must return to the original sources to find the living specimens that are resistant and work this germ plasm into another new variety that has the properties of yield and quality.

Several of these critical centres of germ plasm are in the less developed countries. FAO should arrange with the individual Governments for a protective scheme with its entire membership, for giving assistance to these Governments for protecting these valuable resources for the good of all countries.

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the following table which shows the results of the various experiments conducted at the University of California, Berkeley, during the past few years.

RESEARCH

National Programmes (Supplement)

FAO can help the less developed countries with teams to advise on long-term goals and alternative programmes in accordance with the needs and both present and planned facilities. In the advanced countries it has generally proved to be helpful to have the main research stations closely associated with University teaching in agricultural and related sciences. A good national research system can give guidance to several activities that draw a great deal on methods already being used in other countries.

1. FAO can give important assistance to the less developed countries and some assistance to developed countries, by calculating the results of soil erosion control systems already initiated and working well, as these systems apply to different sites of soil and climatic conditions within specific countries.

This effort would also include both methods of measuring and results of measuring both normal and accelerated erosion, including the movement of both water and sediment, as well as other significant pollutants in the streams that may be reliably measured. Such measurement of water and sediment in streams has generally been done by, or cooperated with, Government agencies responsible for geology and water. Such compilations could be very helpful to the FAO in carrying out its responsibility of advice to the less developed countries.

2. Many problems of soil degradation, or of failures to recognise potentials from good management, extend over a considerable region that includes all or parts of several countries, such as a large catchment basin. Systems

General Remarks (Continued)

It is the policy of the State Department to have the most complete and accurate information possible regarding the activities of the Communist Party in the United States and its branches in foreign countries. It is the policy of the State Department to have the most complete and accurate information possible regarding the activities of the Communist Party in the United States and its branches in foreign countries. It is the policy of the State Department to have the most complete and accurate information possible regarding the activities of the Communist Party in the United States and its branches in foreign countries.

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of attacks on such problems can include water control, improved soil management, one or more elements of land reform and broad town and country planning essential to have a viable economy with good opportunities for the population.

With financial assistance from FAO, such work could be initiated on priority items in each country. Later, with FAO guidance, each area could be gradually integrated into a revised regional plan as the work of the initial projects goes forward.

3. Adaptive research is a highly important responsibility of FAO. Nearly all basic principles developed from both basic research and experience must be combined and adapted to the local economic and cultural environment. Much depends on the skills, goals, and resources of the local citizens. Normally, research scientists and advisory experts cooperate with this kind of planning which uses the best information available to help the people in the areas achieve the ends that they want for themselves.

4. Most countries have some "marginal lands" which for one or more groups of reasons are not now clearly adapted to their previous systems of use or to new systems. As farming changes from simple management to the use of machines some soils lose their early advantage. For example, when hay and grains were cut by hand stones were not a big handicap. People could easily work around them but heavy harvesting equipment cannot do this, so the more alert managers went elsewhere for responsive non-stony soils.

Other marginal lands are the transitional areas between the inhospitable desert soils and soils used for growing ^{cereals.} Most of these soils have an uncertain carrying capacity for grazing animals; looked after by nomads in Africa and elsewhere in the dry areas, their very existence is threatened.

It is important to note that the results of this study are based on a single cross-sectional survey and may not be generalizable to other populations or settings. Future research should aim to replicate these findings in larger, more diverse samples and explore the underlying mechanisms of the observed associations.

See also: [Bosch, J. \(2010\) The role of the state in the development of the Dutch economy](#)

... (faint text) ...

[illegible]

Безопасность не должна быть абсолютной, а должна быть относительной.

the following items in this section: before and after the following:

It is noted that the above information is not to be used for any other purpose than that for which it was provided.

Алтайский край

Abraham Lincoln is a highly respected and admired figure in American history.

...the results of the research and experiments

Amman, Jordan has almost total oil self-sufficiency.

which represents in the middle, right, and rear views of the same machine.

Hand 111 Die Marquis-Gruppe von 1880 bis 1885

IT IS REQUESTED THAT YOU ADVISE THE BUREAU OF THE RESULTS OF YOUR REVIEW.

13. The results indicate the need that they have the information.

That operation has been "successful" which has been

To manage resources used in bridge projects and for the support to users

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we in addition have also been very successful.

and the results were not as good as they had been before.

1000

... ..

Other medical tests are being conducted by the

admission to the Park. The Park is a beautiful one and the people are very kind and helpful.

of the total number of persons in the United States who are employed in the service of the Government.

...in which the ...

It is possible in many places to alleviate the problems by irrigation to produce emergency forage as well as stored hay. Then too, among many nomads, prestige unfortunately depends on the number of animals they have, not on their quality. In the lower mountain areas it would be possible to divert the water from intermittent mountain streams into great cisterns carved out of deep deposits of calcium carbonate accumulated during the past few thousand years. Roman engineers have done this in both Tunisia and Algeria. Such reservoirs could be located near mountain streams and tapped for irrigation of nearby local areas of good soil. At least two such areas should be needed: one area could be devoted wholly to forage. This area would become a gathering place for nomads with their animals in dry years. A government-licensed market could be provided for the orderly sale, and perhaps slaughter, of animals that would be purchased according to their individual quality, not simply at an "average price" per head. The result of this market could be a symbol change from the numbers of animals to their quality.

One could then expect that gradually the old men and the women and children would not spend all of their time on safari. Many would stay at this gathering place. Then the second area of good soil could be irrigated for food crops looked after by those remaining at the new location. A bit later a school and health centre could be provided. In most places the changes would need to be gradual, without any appearance of "forced" settlement.

Other marginal areas lie between forest and grassland. The soils are kept in a poor condition by repeated fires that prevent forest trees from growing and the soils degrade. A very high proportion of the savannah in Africa south of the Sahara, for example, is anthropic or man-made savannah. Fires over a long period of time have destroyed the regional vegetation; the soils have become degraded unnecessarily in the process. Yet with fire

It is possible in many places to illustrate the position by taking
either to produce satisfactory results as well as good crops. When the
many animals, however, unfortunately depend on the number of animals
they have, and on their quality. In the lower mountain zone it would be
possible to direct the water from the mountain streams to the
valleys and use it for the purpose of irrigating the crops.
During the past few decades, some experiments have been made in
the United States and Canada. Some experiments could be made in the
valleys and would be of great value to the people. At
least the same should be made. One area would be devoted to the
crops. This area would be a gathering place for the animals with their
animals in the past. A government-financed project could be started for
the purpose of this, and perhaps the animals would be produced
according to their individual quality, not simply as an "average" type.
The results of this project would be a special change from the
of animals to their quality.

The same idea could be applied to the old and the new and
the same would be used all of their time in order. They would have
the gathering place. Then the second area of good soil would be irrigated
by the same water which is used for the old. A big lake
a dam and the water would be provided. In some places the dam
would need to be raised, without any appearance of "forced" conditions.
Other projects exist in the United States and Canada. The water
is in a form suitable for irrigation. The water is from the
mountain and the valley. A very high proportion of the water is
used for the purpose, for example, in the valley of the Colorado
River. A dam would be built to raise the water to the valley. The
water would be used for the purpose. The water would be used for the

control many of the soils could become productive with good management, for pasture for field crops, or for trees, depending on the local kind of soil. In many places some of the bad species such as spear-grass (Imperata cylindrica) would need to be eliminated by deep ploughing with heavy tractors before sown crops or pastures could be grown. Because of its nature this useless grass cannot be eradicated practically by hand methods.

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PROVISIONAL AGENDA

7.b Monitoring

Most users and readers of the word "parameter" have no idea what the word means. I suggest that the first line be modified to "The identification and establishment of significant environmental criteria....."

9.c Education about the Environment

Education about the environment can be provided through the mass-media - newspapers, radio, and TV. The basic principles of how plants and animals grow and how changes in the environment influence them can be presented at both elementary and secondary schools. Basic training in these scientific principles can be covered in Colleges and Universities. Advisory or extension officers can furnish qualified people for teaching and demonstration in country areas to show the advantages of prudent soil use, both to improve the productivity of the soil and to avoid hazards and waste of water and soil resources.

7.6. The Environment

For many and much of the past generation, the environment was the last thing on our minds. I cannot say that it was the last thing on our minds in the 1960s and 1970s, but it was certainly one of the things that we were beginning to think about.

.....

7.7. The Environment and the Future

There is a great deal of concern about the environment and the future. The world is changing rapidly, and the changes are being made by people who are not always aware of the consequences. The world is becoming more and more crowded, and the resources are being used up. The environment is being polluted, and the climate is changing. The future is uncertain, and we need to think about how we can make it a better one. We need to think about how we can live in a way that is sustainable, and how we can make sure that the world is a better place for everyone. We need to think about how we can make sure that the future is a better one than the present.

THE ENVIRONMENTAL ASPECTS OF NATURAL RESOURCE MANAGEMENT:

AGRICULTURE AND SOILS

This paper is badly confused and difficult to follow. Before the industrial revolution the words "farming" and "agriculture" were nearly synonymous. This is no longer even approximately true. In all advanced countries farmers make up only 6 - 30% of the total labour force. In the United States it is only 6%, yet in the United States about 37% of the national labour force is in agriculture. Many of the workers that formerly worked on farms have been transferred, statistically, to towns and cities to process farm products, to manufacture inputs, and to other^{parts} of the industrial sectors of agriculture. Thus, in national planning of any account whatever, the whole agricultural sector must be considered including marketing, storage, transport, processing, and input industries for machines, fertilisers and other essential manufactured products used by farmers.

1. Farmers and others in rural areas use and manage forests, except for very large ones. A very great many mines are in rural areas and in any successful farming area there are also market towns. With concentrated education, rather drastic improvements can be made and have been made. But of course farmers may not make them unless they have reasonable prices for their products and reasonable prices for the things they must buy.

1.1 Generally speaking, soils used by commercial farmers are more productive than they were when first cleared and cultivated. In the development of new lands adequate fertiliser, lime, and water control may be necessary from the very start.

1.11 This paragraph is misleading. Most of the new varieties, especially of cereal grain, were bred to respond to fertilisers. If fertilisers are

The paper is divided into two main parts, the first of which is devoted to the

general principles of the work of the International Bureau of Statistics.

This is no longer even approximately true. In all instances

the Bureau has made up only 6 - 10% of the total labour force. In

the United States it is only 4%, but in the United Kingdom it is 10%.

national labour force is in general lower. That of the United Kingdom

is about 10% of the total labour force, statistically, it is about 10%.

to make this possible, the statistical system has to be adapted to the

total labour force of the country. This is especially so in the case of

the whole statistical system must be completely revised and adapted.

national, international, and local statistics, including the

national statistical system and the international system.

General and special statistics are the two main types of

the very large group. It is very large and it is very important in the

national statistical system and the international system. It is

national, regional, and local statistics and it is very important in the

of national statistics and the international system. It is

national and international statistics and the international system.

General statistics, which is the main type of

the very large group and the international system. It is

the main type of statistics, which is the main type of

the very large group.

This paragraph is misleading. Most of the new statistics, especially

the new statistics, were used to respond to the needs of the

unavailable, and especially if both fertilisers and water control are unavailable, commonly the old varieties will give better results than the new ones.

1.iii

For good commercial farming it is essential to have local input industries and adequate processing industries, not only for food crops but also for industrial crops essential to have national foreign exchange. With a good advisory service there is very little actual pollution caused by "agro chemicals", yet in several countries not enough control and regulation is given to some of the input industries for agriculture and some of the processing plants to avoid stream pollution.

1.iv

Some of the farm lands have been used for taking care of waste disposal properly from urban areas. This must be disposed of some where. We must remember that at the present time the world is making use of less than one half of the potential good arable soil. We know that both city people and country people have been inconvenienced by the building of highways, but both need transport and it must be arranged for. Prior to the industrial revolution all heavy transport was by ship, nearly all of the big cities were located on oceans or navigable streams and lakes, which is why we have the terrible problem of city crowding. This is no longer necessary with proper land transport. Hundreds of new cities can be developed to avoid the disease and crime associated with many of the old, crowded cities. It is an urgent need that we have this transport.

2.

There are a few examples of the statement in the second sentence but none are given in this paper. Generally planning is now going on quite well in countries with adequate soil and water surveys. In addition, surveys of other resources are needed in order to have good country towns that will serve farmers as well as townspeople. There is no successful commercial

farming in the world that is able to pay all the costs for common services - hospitals, schools, stores and so forth (the infrastructure) - with the returns of farming alone. When appraising an area for agricultural development we must give attention to the other resources to support both business and labour.

.1.1 Although many of the points listed are significant, it is important to emphasize that successful farming depends upon stable prices for what farmers buy and for what they sell. Also, it is essential to give farmers cash payments as incentives to do things on their farms that greatly benefit other people as well.

.1.1 There is confusion here about words. A natural soil is an eco-system. This concept was first defined by a great soil scientist of old Russia in 1870. Each natural kind of soil has a unique combination of many characteristics produced by a unique combination of five factors. These are the active factors of (1) climate and (2) of plants, animals and micro-organisms, acting on (3) the earthy parent material as conditioned by (4) the relief and (5) the age of the land form. This basic concept of a soil was later called by some people "an eco-system". In farming, however, we are not much concerned with the original eco-system but with the potential eco-system that improves important food and industrial crops.

.1.1.1 In the second sentence one must use the word "soil" rather than "ecological" if ecological includes the present vegetation. In vast areas of the world the present vegetation and animals have resulted from many thousands of unrecorded accidents of clearing and firing. For example, nearly all the savannah in Africa is anthropic, or man-made. It has resulted from vast combinations of use and of firing for many thousands of years. Some of the very best soils have the worst kinds of grasses and also some of the best kinds, depending on the old history.

- 3.1.iii In the first sentence the intention is to refer to farming not to agriculture, with all its industrial sectors. The new legislation mentioned should be to promote efficient farming as well as town planning to serve the farmer.
- 3.1.iv The same error occurs in the first sentence of this paragraph. For planning we must go back to the kind of soil including the regimes of temperature and moisture within the soil. Current vegetation gives little or no indication of the potential. The recommendation in the last two sentences is not objectionable, except that it makes no recognition of the fact that an enormous amount of highly successful work is going on along these lines now. For many years soil scientists through their own societies and with some assistance from FAC, have been making full exchanges of data. The results of research and of experience are exchanged regularly. In the United States full use is made of the results of such research and experience on the kinds of soil that are found also in the United States that originate in many other countries.
- 3.1.v For accurate assessment of capabilities one must go back to the kind of soil in some generally known system of soil classification. Land classification is really the classification of tracts of land considered as real estate. In good soil surveys now the units in the classification and shown on maps are interpreted for all the reasonable potential uses including crops and potential yields under different systems of management. Many also interpret these soils according to their suitability for various kinds of forest trees, range grasses, and as foundations for buildings and highways. A great deal is being done in this area. In a new area normally surveying is done at relatively small scales, say of 1:1 000 000 in order to find the places that have potential for general planning. These then need to be supplemented by more detailed surveys for operational planning.

THE UNIVERSITY OF CHICAGO

and a person who is not a member of the family.

of 1967, successful work in getting on along with them.

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Small and Choudhary in the United States have reported that

... ..

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1.1.vi Again in this paragraph, "spot" surveys will not be useful for applying the results of research and experience elsewhere unless the soils are named in some standard system.

1.1.vii It is realised that FAO must work through national governments but in carrying out assistance in the field it is extremely important to have both provincial and local institutions to work with.

1.1.viii The statement can be taken provided that it relates to the principles of science included under the broad/^{term}"ecology". Ecology itself is not a science but a point of view. In this teaching there must be no reduction of emphasis on basic principles. Each scholar needs basic study in some one field or he never learns the basic principles of scholarship and will be unable to make any useful contribution to inter-disciplinary study.

1.2.1 Near the end of this little paragraph emphasis must be given to "changes in economic opportunities". In area planning jobs must be found for all people who live there and not all of them will be in farming. Hopefully some of them will be in the industrial sectors of agriculture and some will find opportunities as a result of development of hydroelectric power, mining and other activities. No farming area can maintain an infrastructure on farming alone.

1.2.11 The methodology for planning in country areas has been quite well developed in several countries. Some experience in the United States, Britain, Ireland and in North Western Europe generally is available. Happily some is being developed in several other countries. This is not an unknown field, there is a vast literature - like all such literature some is poor and some is excellent.

1.3.11 Again in this paragraph to have a good scheme for the improvement of farming or for its establishment on newly developed soils, farmers must have some kind of price supports and some kinds of cash incentives to get started well.

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III A 1 (Legislation)

Enabling legislation for essential controls of the use of both soil and water and for aid to the people in local areas, are required for prevention of waste, pollution, and soil degradation.

The specific drafting of such legislation needs to vary among countries according to the distribution of powers among ^{the} national government, provincial government, and local governments. All these governments are necessarily concerned. Then too, full recognition needs to be given to significant differences in common law among the countries.

Since funds, both for incentives to land users and for the common practices that affect all land users, are required great care must be taken about sources of such funds, at least roughly in accord with the resources available from taxes among the several units of government. In some countries most of the funds must come from the national government since they have the greatest opportunity to collect taxes.

Whatever scheme is devised, considerable effort is required to explain the need for, purposes of, and benefits of such programmes. Normally, for example, the direct and indirect benefits of improved farming, forestry, and town-and-country planning, are widely distributed through the economy. Greatly improved farming, for example, leads to more business and more jobs in the towns and cities.

The laws and regulations adopted should be well explained to all classes of people to be affected by the proposals. Citizens should have the opportunity of selecting some of their colleagues to represent them in the planning and consideration of proposals. In most areas man is judged by his peers - the reasonable men of the community - and these will not agree to the condemnation

...legislation for essential controls with use of law will
and water and for aid in the people in local areas, and required for government
of water, electricity and soil degradation.

The specific character of such legislation needs to vary more according
to the distribution of power among national government, provincial
government and local government. All these governments are necessarily em-
powered. When law, full responsibility needs to be given to all levels of
government in common law among the countries.

Since there is no law, the government is not aware of the common
principles that affect all local areas, and therefore there can be no
effectiveness of such laws, as local people are aware with the government
available from local areas of government. In such countries
most of the laws come from the national government, which have the
greatest opportunity to collect taxes.

Legislation is required, considerable effort is required to maintain
the need for, purposes of, and benefits of such government. However, for
example, the direct and indirect benefits of improved farming, forestry, and
home-and-owning planning, are widely distributed through the country. Overall
improved farming, for example, leads to more business and more jobs in the
rural and urban.

The law and regulations should be well explained to all classes
of people so as affected by the proposal. It is also should have the opportunity
to reflecting some of their suggestions or proposals in the planning and
implementation of proposal. It may even be argued for this point - the
transmission of the country - and there will not agree to the consideration

of a man for violating a regulation that they neither understand nor agree with.

In many countries the people in local areas have had for generations certain rights of access to a river, to the sea, or to hunting grounds. To build barriers without prior explanation is bound to lead to unnecessary trouble and opposition to plans for all efforts toward economic improvement, including soil conservation as well as other activities.

As one very important example among many: the need is urgent in many farming areas in the world for the consolidation of fragmented holdings. Without consolidation of many tracts into one, or two, or three, according to kinds of soil by their potentials, it is nearly impossible to have good run-off and erosion control, efficient irrigation, proper crop sequences, and the like. Most of these small parcels have come to families through inheritance, including marriage dowries. Successful schemes have been well accepted by the local farmers without trouble, but only where the local cultivators have been convinced of the high competence and honesty of those carrying on the work.

On sloping areas requiring terraces, traditional farmers have liked to have the terraces or bunds on their property lines. This works very badly. Some of these stimulate gullies and others lead to water logging. In the new scheme the terraces must be at the proper angle to the contour. One boundary of the holding is the upper terrace and the lower boundary the lower terrace and the side boundaries will be placed to give the farmer the amount of land to which he is entitled.

In many countries one cannot use the old European plan of placing all the land of the holding in one block. If the village has highly contrasting kinds of soil it would be unfair to do this. The kinds of soil may be grouped into two or three groups and this reduces the number of holdings for an individual family from 15 or 20 to 2 or 3, generally.

In some countries, very old laws about water, developed long before modern methods of water control, make the formulation of reasonable plans for great improvements in catchment basins nearly impossible, even though the cost would be low in relation to the high benefits. In such places concentrated educational work needs to be done, perhaps with some cash incentives and guarantees to the land users. The educational work must be done not only with officials in national and provincial government, but also among the people to be affected by such changes in the law and the resulting improvements.

The keys to orderly changes in both common and statute law are full participation and understanding by the local people of all classes.

June 4. I finished dictation for a speech to the staff (copies attached). During the discussion period I clearly outlined the importance of putting the industries in the villages and making country towns.

I also talked with Dudal about a new soil conservation officer to report in October, 1972.

The staff also discussed other candidates known to me. I agreed to send copies of many of my recent essays that related to law, town-and-country planning, reading, and so on.

In the evening I had a buffet dinner chez Smyth along with the Dudals, Brammer, and others.

I was returned to the hotel at 9:30 in the rain.

June 5. I was up early and packed, took a little breakfast, and went to the airport with Dudal. As soon as I passed controls he left. I got into the Alitalia plane about 9:20 and we were in the air for Paris at 9:45 a.m., which is equal to 3:45 a.m. Eastern Daylight time. The plane was clean and the service excellent in marked contrast to TWA. We arrived in Paris about 10:30 Paris time. Somehow I got a bit confused in the airport, which now had two parts. The famous shopping center has deteriorated except for cameras, watches, perfume, and whiskey.

I checked in at Air France for the trip home at 12:38. We were not on board until 1:10 and then had a long wait. The reason was clear. Several seats were vacant and, at the last minute, the ground crew added considerable freight.

We actually took off at 2:16 for Boston -- about an hour late. Yet the service in the plane was very good.

C E K

3 June 1971

Soil Investigations for Agricultural Development

1. Define farming and agriculture
2. What is a soil and a kind of soil
 - (a) A natural soil has a unique set of characteristics produced by a unique combination of five factors.
These characteristics include the cycles of moisture and temperature, soil slope, and stoniness, as well as the many features of the soil horizon or layers. Some of these features can be determined only with laboratory examination of proper samples. Not all characters can be seen in samples put into a bag.
 - (b) A kind of soil
 - (c) Each one is an eco-system
 - (d) Our chief concern, however, in farming is not with natural eco-systems but with potential eco-systems.
 - (e) Few soils are well suited to commercial farming *reproduction* if farmers are to have good incomes, just as soils were produced by nature. Most arable soils used by good farmers are considerably more productive today than they ever were in nature. *The idea that all natural soils are unimproved is absurd.*
 - (f) Tell the story of the congressman's enquiry about conservation in Florida.
 - (g) This leads me to emphasize what conservation means: prudent use on a sustained basis. There is a considerable difference between conservation and mere preservation.

Many attempts at preservation failed. If we make a park in a wild area the animals soon find out where the boundary is, whether we have a fence or not. The mere making of this boundary is an introduction of management. *And the wild area needs management*

3. We need to know, for each kind of soil, its characteristics, and how each responds to alternative management systems. As you know this requires both field and laboratory examination.

This is the purpose we have attempted to reach in the American national cooperative soil survey. Essentially all soil surveys in the United States are cooperative between the Soil Survey of the USDA and each of the State Land Grant Universities. Every workplan for a soil survey is signed by the Director of the experimental station and the Head of the Soil Survey. In addition, several other federal and state agencies take part in certain soil surveys, and furnish funds for this purpose where they need the results. Many of our most distinguished soil scientists specialising in soil survey work are on the staffs of the Universities and of other agencies.

This considerably aids our programme for several reasons

- (a) The great bulk of research results we need are available from the State experimental stations. They do some of the essential laboratory work and we in USDA do some of it, under an agreed upon programme.
- (b) On every soil survey party it is desirable to have one soil scientist intimately familiar with the local research, and the local problems, and to have one soil scientist who has broad experience over many soil regions. Much of what we know we know through comparison. There is an old German proverb that a soil scientist must be a traveller. Until one has travelled in the tropics he may not understand soils in the United States, nor is he likely to recognise old tundra mounds and ice wedges unless he has been in tundra country.
 - A. For each kind of soil we need to know the adopted crops and their yields under alternative systems of farming.
 - (a) Response to fertilisers - most of these data came from experiments and the observation of farmers fields

(b) Water control systems

(i) Run-off control

(ii) Irrigation response

(iii) Drainage requirements and methods. The depth and spacing of both closed and open drains depends a great deal on the kind of soil.

B. Forest site index: In forestry the selection of proper sites for roads and skid trails is vital.

C. Grazing capacity or site index

D. Requirements for land clearing and tillage. Much is being learned now about problems being created with heavy machines and about the need for avoiding the use of bulldozers in land clearance.

4. Each productive hectare used for crops that return a good price for the labour and their inputs has at least ⁴~~three~~ sets of functions that interact with one another and with the local kind of soil. (This is the application of the ~~Principle~~ of interactions to soil management).

A. A balanced supply of essential plant nutrients. There are several ways to achieve this.

B. Soil moisture and oxygen in the rooting zone as the plant requires them and to the required depth - there are several ways to achieve this.

C. The kind and variety of crops, or combination of crops that can respond to the best we can do for producing the ideal soil with our management. (We should add that many of the new varieties of cereals are bred to respond to fertiliser and water control. Without these practices many of the older varieties are better.)

D. Protection from pests.

E. In addition, we have some soils that require protection from the sea, and from mountain torrents.

Someone wrote a while ago that nobody could make a soil - I recommended to him a visit to Holland.

5. The research necessary to understand our soils and how they may be manipulated and managed needs to be done on samples of known kinds of soil. An experimental field or series of plots is such a sample. Each should be a fair sample of a kind of soil worth sampling for our purpose.

From such research we can determine the most effective ways that are locally economical to approach the ideal soil. Where the soils are ~~labelled~~ in some system of classification we in the United States use the results from similar soils to ours from all over the world.

Most soils in Nature, as you know, are deficient ~~and have~~ ⁱⁿ one or more nutrients for high yields. Any one of several nutrients may be in short supply. Phosphorus deficiency for example, is widespread and any of the other primary or secondary nutrients may limit yields. Some elements like iodine, cobalt, and chromium are necessary in foods and feeds.

Our soil classification systems make it possible to classify our results of research and experience by kinds of soil. To apply this knowledge soil maps are needed or, where they are lacking, a competent person needs to be available to identify them in the field by inspection. Otherwise the results cannot be applied accurately.

This is all familiar to most of you. Yet the title given to me refers to "Agricultural Development".

To get maximum benefits from our soil research we must also have comparable research in agronomy, horticulture, animal feeding and so on, because in successful farming we are always dealing with combinations of practices.

Also we must have, or develop along with farming, the several other sectors of agriculture.

There must be storage facilities, markets, processing facilities, machines, chemicals and other inputs. *(Villages can be ruined)*

Then too, farmers must have the incentives to make their soils productive. This means reasonable security and reasonable prices, ^{or P} for both outputs and inputs. *(A number of hills of the soil in terms of hills of soil? That is the question.)* In some areas there may need to be some cash incentives and technical assistance for the control of run-off, erosion, weeds, and the like. Normally farmers need assistance during the early period of settlement or re-organisation of old farming systems to improved ones. Rarely can farm managers go directly and at once from the natural soil to the ideal soil that must be developed. Advisors to such farmers must not push them any faster than their skills grow. In other words, if too much is introduced at once, new farmers become confused.

We tend to generalise countries into two groups: the "developed" countries and the "undeveloped" countries. This exercise can lead to great errors. Most of us here know of the differences among the developed countries, but do we always know which countries are to be counted as one or the other? Certainly there are enormous differences in the skills of farmers within and between the undeveloped countries.

We tend to ^{promote} ~~finance~~ schemes that work well in some areas, such as the so-called "package programme" that has had considerable success in parts of India. Yet it may have no relevance in parts of other countries.

June 1941

We stopped in Boston at 4:26 and were held up, of course, to unload the freight.

The wheels were down at Dulles Airport at 6:25 p.m.

Fortunately I went through customs quickly. Mommy was there and we were back home at 7:53 p.m.

June 6. About half the day in the garden and the remainder reading and resting.

June 7. I went to the USDA office. Pauline made copies of the FAO statements and I discussed them with Johnson and Hockensmith.

I sent the papers and bulletins to Dudal.

Then I went to the FAO office with a statement of my expenses here and they fixed up the forms. I had a long talk with Cottam about my work in FAO and the seemingly great lack of coordination among the divisions. I also explained why it was so difficult to get U.S. people to go to Rome permanently. It was not so much the salary differences between Western Europe and North America but the very high cost of travel to take care of family emergencies. He thought that arrangements could be made for insurance to cover these costs and agreed to discuss it with insurance companies and with the Director General.

I also had a talk with Jack Towers about doing some radio tapes, perhaps in a week.

I also saw several other people and gave Pauline a Roman purse.

June 8. Mostly in the garden.

June 9. Garden until 3:30. Then Mr. Guttenberg came to visit me about the "New Deal," agriculture, town-and-country planning, and so on.

Before he left Bob Birch came by with a book.

June 1971

June 10. Cleaned gutters, partially removed a pear tree, and so on in the garden.

The Johnsons came by about 6:15 and we went with them to a party for the Agricultural Counselor and Staff at the Soviet Embassy.

June 11. I dug up pachysandra plants and ferns for the Johnsons. Carol came by for them a little after lunch. Completed removal of the pear tree.

In the evening Mommy and I went to a party chez Roger Custry from the Belgian Embassy.

June 12. Most of the day in the garden.

June 13. In the garden until about 1:30 p.m. Then read and wrote.

June 14. I was in my old USDA office. I had some minor comments from the editor of the Yearbook about my piece on "Gardens and their little climates." He also wanted some kodachrome slides for color prints which I sent along.

I spent about 2 $\frac{1}{2}$ hours with Jack Towers for radio tapes. We talked about soils, the nature of agriculture, town-and-country planning, and related subjects that applied to the US and to the world generally.

In the evening Mommy and I had dinner chez Dykes.

June 15. I sent a final corrected biography to Who's Who.

Mommy and I went to Stoneyhurst quarry to get stones for revising two beds.

June 16. Painted iron stakes green and worked on the garden beds.

Robert dropped by on his return from Princeton where he had been grading applications for scholarships.

June 17 and 18. Worked on terraces in the garden.

June 1971

June 19. I worked in the garden on general clean-up, especially of the rock garden. My age showed. I had a fall during which clippers, glasses, and pipe went into the street with no harm done.

June 20. Professor Hartley Teakle, of the University of Queensland in Australia, and his wife were in town. Mommy and I picked them up at 9:30 and they spent the morning and had lunch with us. About 2:30 we took them to another acquaintance in Hyattsville.

We then went out to the nursery and got some marigolds and a "zebra" plant.

June 21. Worked in the garden until 3:00 p.m. For the first time in 1971 the garden work was current.

June 22-23. It was very dry. I worked in the garden and at other chores.

June 24. I spent the morning at the NAL and read in the afternoon.

June 25. Hockensmith called me out of the garden at about 10:00 a.m. because of a call from a Beverly Sheidy in New York who wanted a great many copies of my photographs. I got a good many together and Mommy typed the captions. Perhaps I was being hooked.

I also wrote to Senator Humphrey and sent him a copy of my South Carolina speech with the explanation that we would get nowhere with a rural development program unless it appealed to businessmen and labor unions. It must be town and country to have jobs.

June 27. Worked in the garden and visited the Johnsons.

June 28, Monday. Worked in the garden. We had a violent thunderstorm that struck the electric line somewhere. One of our circuits went out and

June - July 1971

-1276-

it was a big trouble to find the short. This cost \$22.50.

June 29. Worked in the garden and on a speech for the regional office of FAO.

June 30. Garden work and reading.

July 1. I went to my old office and met the principal soil correlators except for John Rourke, who was out of the country. Alex Robertson and Roy Ericson were also there.

In the forenoon I went to the FAO office and conducted a seminar on the principles for planning in helping the less developed countries. Mr. Cottam then presented me with a nice medallion for the 25th anniversary of FAO.

I had lunch in the Executive Dining Room.

At 2:30 they had arranged a Soil Survey retirement party for me in my old office. Mommy, Robert, Joan, Elizabeth and Stephen were there too.

Then we went to the large sixth floor cafeteria. A great many people came, including even Dick McArdle, and also Johannesson and Ralph Cummings from New York City.

Probably nearly half of those attending were either retired or from other agencies.

My gifts were announced: An Oxford English Dictionary and money for a trans-oceanic radio. The speech making was short and dignified. I suggested in my reply a few rules.

1. Never allow yourself to be humiliated or flattered; and no one can do it unless you cooperate and feel humiliated or flattered.

July, 1947

2. No matter how hard ~~the~~ pressure, never sign a statement that you would be unwilling to defend before the scientific community.

3. Support other agency programs that you know are good. Someday you will get in trouble and then you will have some friends.

After the party was over we returned home and then went to dinner chez Johnson. Robert, Joan, and the children were there along with Ejorn Johannesson, Jack McClelland, and Mel Williams. It was a pleasant evening but I was nearly exhausted.

We had been given nearly 300 letters from the United States and abroad. So we had our work cut out for several days in making replies.

